

PUERPERAL INFECTION: A CLINICAL  
AND BACTERIOLOGICAL STUDY OF 130 CASES.

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During the past year (1929) while acting as Senior Medical Assistant in the Edinburgh City Hospital I have had the opportunity of personally looking after and treating 130 cases of Puerperal Infection.

My own investigations and observations on these cases I now beg to submit as a thesis for the M.D. (Edin.) degree.



# I N D E X

	<u>Page</u>
1. Introduction	1.
2. Historical Outline.	4.
3. Etiology (including Bacteriology)	15.
a) Bacteriological Examination of the uterus.	55
b) Bacteriological Examination of the blood.	75.
c) The Relation of Puerperal Infection to the Method of Delivery. ....	88.
d) The Dick Test.....	94.
e) The Wassermann Reaction.....	98
f) The Blood Picture.....	99.
4. Account of 130 cases, including History, Clinical Findings, Treatment, and Progress of each case.	102.
a) Local Uterine Infections. (78 cases)....	105.
b) Pelvic Inflammation including Pelvic ) Cellulitis, Pelvic Peritonitis.        ) Thrombophlebitis Pelvic Veins,       ) Phlegmasia Alba Dolens                )Cases.	264 17
c) General Peritonitis (4 cases).....	305.
d) General Infections of the Blood Stream, (26 Cases)	316.
e) Miscellaneous Group including mental disturbances, breast troubles, Scarlet Fever, Paratyphoid B, and other conditions consequent on, or complicating the puerperal state (5 cases).....	381.



	<u>Page</u>
5. The Symptoms, Diagnosis and Prognosis of Puerperal Infection in brief.	394.
6. Treatment of Puerperal Infection.	401.
7. Conclusions.	447.
8. Bibliography.	450.

INDEX TO VARIOUS TABLES AND ANALYSES IN THESIS.

## Etiology (including Bacteriology)

1. Table with details of 130 cases of puerperal Infection, including blood culture, uterine culture, Nature of Delivery, Traumatization of Genital Tract. etc..... 35.
2. Table showing the types of Organisms cultured from the uterus in 89 cases of Puerperal Infection..... 55.
3. Table showing the types of Streptococci cultured from the uterus in 27 cases of Puerperal Infection..... 57.
4. Table showing the Organisms found in the five categories of Puerperal Infection..... 58.
5. Analysis of the Results of examination of the blood of 129 cases of Puerperal Infection.... 75.
6. Analysis of the Results of examination of the blood cultures and uterine cultures of 26 cases of Puerperal Septicaemia..... 76.
7. Table showing the Relation of Puerperal Infection to the Method of Delivery..... 88.
8. Table showing the Duration of Life in 21 fatal cases of Puerperal Infection after the onset of the disease..... 91.
9. Table showing the Duration of Fever in hospital of 130 cases of Puerperal Infection. 92.
10. Table indicating the Day of disease upon which cases of Puerperal Infection were notified and admitted to hospital..... 93.
11. Analysis of the Results of the Dick Test in 67 cases of Puerperal Infection..... 94.

Page.

12. Table showing the results of the <u>Wassermann Reaction</u> in 125 cases of <u>Puerperal Infection</u> .....	98.
13. Analysis of the <u>Blood Picture</u> in 130 cases of <u>Puerperal Infection</u> .....	99
a) Table showing variations in the <u>Erythrocyte Count</u> .....	99.
b) Table showing variations in the <u>Haemoglobin Percentage</u> .....	99.
c) Table showing variations in the <u>Leucocyte Count</u> .....	100.
d) Table showing variations in the <u>Leucocyte Count</u> in 26 cases of <u>Puerperal Septicaemia</u> .....	100.

SYMPTOMS.

14. Table indicating the onset of <u>Pyrexia</u> in 130 cases of <u>Puerperal Infection</u> .....	396.
15. Analysis of <u>Rigors</u> present in 32 cases of <u>Puerperal Infection</u> .....	396.
16. Analysis of the State of the <u>Lochia</u> in 23 cases of <u>Puerperal Septicaemia</u> .....	397.
17. Analysis of the <u>Symptoms</u> in 130 cases of <u>Puerperal Infection</u> .....	398.

TREATMENT.

18. Table showing the Various Modes of Treatment of 96 cases of <u>Puerperal Infection</u> with <u>Serum</u> , <u>Chemo-Therapy</u> and <u>Radiostoleum</u> .....	409.
19. Analysis of 23 cases of <u>Puerperal Septicaemia</u> Treated by <u>Serum</u> , and <u>Chemo-Therapy</u> .	411.
20. Analysis of certain cases of <u>Puerperal Septicaemia</u> receiving <u>Serum Treatment</u> in relation to the day of disease upon which the Serum was administered.....	412.

	Page.
a) Cases treated with <u>Antistreptococcal Serum</u> (Puerperal) .....	412.
b) Cases treated with <u>Scarlet Fever Antitoxin</u> .....	413.
c) Cases treated with <u>Antistreptococcal Serum</u> (Puerperal) <u>plus Sulfarsenol.</u>	413.
d) Cases treated with <u>Scarlet Fever Antitoxin plus Sulfarsenol.</u> .....	413.
e) Case treated with <u>Antistreptococcal Serum</u> (Puerperal), <u>Scarlet Fever.... Antitoxin and Sulfarsenol.</u>	413.
21. Analysis of the Results of <u>Serum-Therapy</u> in Puerperal Infection cases other than Septicaemias.....	414.
22. <u>Analysis of the Results of Treatment by Chemo-Therapy.</u> .....	424.
a) Sulfarsenol .....	424
b) Mercurochrome .....	427
23. Analysis of the Results of Treatment with Radiostoleum .....	434
24. Table indicating the <u>incidence of Urinary Infections</u> in Puerperal Infection .....	438
25. Table showing the relation of <u>Gangrene of the feet</u> in Puerperal Infection to <u>Haemolytic Streptococci</u> .....	443

## INTRODUCTION.

The conception of Puerperal Fever as an infective disease first suggested by British Obstetricians (Denman, Kirkland, the Whites, Young, Ould and Clarke) at the end of the eighteenth and beginning of the nineteenth centuries has now been fully demonstrated.

Agreement is universal that the disease is a special form of wound infection and that it is caused by the entry of micro-organisms or their poisons at the placental site, or through breaches of the surface in the cervix, or body of the uterus, the vagina or the vulva, and that many different organisms including Streptococci, Staphylococci, Bacillus Coli and others are capable of producing the infection.

The micro-organisms may act by themselves invading the tissues, or by giving rise to poisons which are absorbed, or in both these ways. In grave cases the organisms probably always gain an entrance from without during or soon after the process of parturition. In spite of increased knowledge and improved methods of prevention and treatment based

thereon, little or no progress has been made in the past twenty years regarding Puerperal Sepsis. In support of this statement I may mention a few figures concerning the large mortality among women which is incurred yearly through child-bearing:-

1. No fewer than 3,000 British mothers die every year in childbirth.
2. Between 1911 and 1926 inclusive there were 66,421 deaths through childbirth and child-bearing.
3. Septic Infection is easily the most important single cause.
4. In 1926 the total maternal mortality for England and Wales was 5.14 and the sepsis mortality 1.60 per 1,000 live births.
5. Dr. Harold Miller's investigations at Pittsburg show that of 1,000 women examined as soon as possible after the sixth week following labour no fewer than 70% showed some degree of cervical erosion.
6. In 80% of fatal cases there has been operative or manipulative treatment.

Although the deaths of British mothers every year through child-birth and child-bearing are so numerous, we must consider also the much larger number whose health has become undermined through infection and damage sustained during labour.

Of gynaecological cases, 70% to 80% give a history of inflammation dating from some previous confinement or miscarriage. Leucorrhoeas, uterine displacements, uterine haemorrhages, pelvic pains etc., along with common general conditions such as rheumatism, indigestion, debility and neurasthenia may follow a lesion sustained in child-birth.

On the other hand a well-organized Maternity Service gives a much lower mortality rate. If we take as an example the East End Maternity Hospital in London - this Hospital conducts over 2,000 cases every year. About half the cases are delivered in the Hospital. Most of the cases are attended by midwives; abnormal cases by Doctors on the Hospital staff. The mortality rate is just over 1 per 1,000 cases and this in spite of the fact that the practice is amongst the very poor. For four years in a total of 9,000 cases the mortality rate was only 0.67 per 1,000. The Hospital has a well organized ante-natal system, and I think its excellent record is due to good administration, supervision and a low forceps rate (under 3%).

Outside these well organized institutions parturient women have not shared in the benefit and upwards of 40% of the total child-bed mortality is still caused by septic infection from which I have stated on an average some 3,000 die every year in England and Wales.

The mortality percentage of cases of puerperal sepsis is uncertain; but ten is probably not wide of the mark. At this rate there will be in England and Wales every year an average of something like 20,000 puerperal infections.

The disease has been made notifiable and there are the strongest possible reasons for the community to provide effective means of isolation and treatment.



### HISTORICAL ACCOUNT.

The existence of puerperal infection as a malady from which women are liable to suffer has been recognised since the earliest historic period.

Hippocrates (460-377 B.C.) gave a clear description of the symptoms of the disease. The cause of the disease he stated was the suppression of the lochia and his treatment was the administration of purgatives. The disease he regarded as nearly always fatal.

The disease was also described by Celsus, Galen, and at a later period by Avicenna who was a famous Arabian Physician of the tenth century. These physicians supported the doctrine of Hippocrates and brought forward no further facts about the disease.

Mercatus in 1570 stated that an inflamed womb after labour caused the lochia to become offensive. This fact he emphasised was the main feature of the disease.

Ambrose Paré (1575) stated that the entrance of cold air into the uterus was the cause of the disease.

Other physicians thought that certain mental states, e.g. depression etc., caused the affection.



Other views again were that it was due to a miasma, or more simply to an act of providence.

Plater writing about the end of the sixteenth century was of the opinion that the disease was due to uterine inflammation following pain and severe exertion during labour. He was the first to oppose the theory of lochial suppression or entrance of air as causes of fever.

Against Plater's view, Mauriceau (1668), Willis (1676) and Sydenham (1682) all upheld the theory of lochial suppression as being the main factor of the disease.

Puzos (1686) stated that milk in the blood stream flowed to the uterus during pregnancy and to the breasts after delivery, and that it might flow elsewhere in the body and give rise to fever symptoms.

Col de Villars and Fontaine supported his views as they found a fluid like milk when they opened the abdomens of women who were dying of the disease.

Bichat in 1801, however, disproved the theory.

Willis in 1676 called the disease "Febris <sup>et</sup> Puerparum".

Strother later used the term "Puerperal Fever" in his Critical essay on fevers published in 1716.

Smellie (1762), Denman (1768), Kirkland (1774) William Hunter (1776) and others all noted peritonitis occurring in association with a putrid lochia, but as to its exact origin opinions were very divergent.

The contagiousness of the disease was suspected when an outbreak of the disease occurred at the Hôtel-Dieu in Paris in 1746. Almost every patient affected died.

In 1750 lying-in hospitals were established, and shortly after outbreaks of puerperal fever occurred in London, Edinburgh and Dublin. Leake in his writings (Practical Observations on the Childbed Fever 1772) regarding epidemics in London (1769-1771) stated that while the omentum was often inflamed and sero-pus was present in the abdomen, the uterus often remained healthy.

The epidemic waves of the disease which occurred in these pre-Listerian times were deadly - that contagion played an important part in Puerperal Sepsis was evident when in 1774 at the Hôtel-Dieu, Paris, every patient attacked died - altogether about half the patients confined in the Hospital.

Charles White in his "Treatise on the Management Of Pregnant and Lying-in Women" first published in 1773, insisted on women being delivered if possible in separate rooms, women with fever being isolated, and that rooms should be disinfected with brimstone.

Kirkland in his "Treatise on Childbed fevers and the Methods of preventing them" (1774) laid great stress on the contagious nature of the disease. He was of the opinion that the disease was caused by the absorption of putrid material causing inflammation of the uterus. He laid much emphasis also on the

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importance of proper drainage of the uterus, and condemned the practice of manual removal of the placenta.

Gordon of Aberdeen (1795) showed that puerperal fever was infectious. He traced infection in many cases to midwives and himself carrying infection which was as easily spread as smallpox or measles. Thus about this time in Britain, fresh air, strictly cleanly methods during the puerperium and the isolation of cases suffering from the disease was preached.

The work of Semmelweis which I shall mention later has been recognised and lauded in all parts of the world, and I feel we are apt not to give due honour to our own British Obstetricians who lived at the end of the eighteenth and beginning of the nineteenth centuries. Kirkland, Denman, the Whites, Young, Ould and Clarke were all real pioneers in the reduction of puerperal fever. I might repeat here what Dr. Thomas Henry, <sup>37</sup> F.R.S., ("Magnesia Henry") said regarding Charles White's treatise, in his obituary memoir read to the Manchester Literary and Philosophical Society in April, 1813:-

"Perhaps, indeed, few medical books have been  
"productive of more important reform in practice, or  
"of more comfort and safety to the subjects for whose  
"benefit it was intended. Nature was restored to the  
"free exercise of her operations, and officious  
"ignorance was prevented from converting into fatal  
"disease what was benevolently and wisely designed

"to be a process scarcely ever attended with danger".

Disinfection of the walls by chlorine gas and chloride of lime and also disinfection of bed blankets and linen was practised by Collins who was Master of the Rotunda Hospital from 1826 to 1833.

In Britain at this time there is no doubt that the contagiousness of the disease and its ability to be carried was recognised and certain fairly satisfactory prophylactic measures were instituted.

Oliver Wendell Holmes in February 1843 published his great essay on Puerperal Fever Contagion in the New England Quarterly Journal of Medicine and Surgery (Boston 1842-1843) and pointed out how the disease was carried by Physicians and Nurses. His views, however, in many quarters, especially in America, met with much opposition.

No further advance in the knowledge of the disease was made until Semmelweis<sup>w</sup> made his great discovery.

In 1846 Semmelweis<sup>w</sup> was appointed Assistant to the Lying-in Hospital in Vienna, then in charge of Professor Klein. He noted the great difference in the mortality among women who were attended by medical students and midwives. In 1846 out of 4,010 deliveries attended by medical students, 459 women died - a mortality of 11.4%. Out of 3,754 deliveries attended by midwives, 105 women died = a mortality of 2.7%. <sup>78</sup> Semmelweis<sup>w</sup> noted the great difference between the mortality in the two

departments of the hospital. About a year or so later he observed that the appearance of a body (that of a colleague who had died from pyaemia following an accidental wound sustained at a post mortem examination) after death from pyaemia was similar to that of a woman dying of puerperal fever. He then deduced that the introduction of "Cadaveric Poison" was the cause of puerperal fever. The high mortality among the women attended by the medical students being due to the students attending in the maternity wards after working in the dissecting rooms and lack of proper cleansing of the hands.

Semmelweis<sup>W</sup> made the students wash their hands in chlorine water which was later substituted by chloride of lime solution. The result of this cleansing operation was notable - the case mortality fell to 3% in one year, and in 1848 did not exceed 1.27%. Semmelweis<sup>W</sup> carried out many experiments on rabbits - the results of which supported his views. He produced symptoms in rabbits similar to puerperal fever symptoms by injecting them with lochial discharge. Semmelweis<sup>W</sup> preached his doctrine far and wide but it did not find much favour with obstetricians. The entrance of decomposing animal organic matter into genital passages of a lying-in woman he stated was the main cause of puerperal fever. This might occur as a result of using unclean instruments, bed clothes, sponges, or follow examination by a Doctor or midwife

whose fingers were not properly clean. Infection by air was also stated as a possibility. Semmelweis<sup>w</sup> maintained infection was caused in nearly every case by infection from without the body. A few cases he thought to be due to Auto-infection - these nearly always being mild cases of puerperal fever. He emphasised also the importance of isolating the puerperal fever case - the need of its separation from the healthy lying-in woman.

Dr. Routh of London visited Vienna in 1848. In 1849 he gave an address to the Royal Medico-Chirurgical Society of London on "The Causes of the "Endemic Puerperal Fever in Vienna".

Prof. Sir J. Simpson<sup>76</sup> of Edinburgh in a paper stated that infection was usually conveyed by the finger of the attendant midwife or Doctor and this was caused by conveying infective material into the genital passages from any kind of surgical wound infection. Simpson also noted the close relationship between Puerperal Fever and Erysipelas, and that Doctors with unclean hands who had just previously examined a case of erysipelas if they came into close contact with a lying-in woman she developed Puerperal Fever. Simpson had been using for some years at that time a potassium cyanide solution for disinfecting his hands. Semmelweis<sup>w</sup>'s views and theories were first made public to the world by his distinguished friend Hebra who wrote on his behalf in an article published in December 1847 in the Zeitschrift des



Gesellschaft der Aertze zu Wien. Hebra published a similar article later in The Transactions of the Medical Society of Vienna.

Michaelis of Kiel profiting by this knowledge tried chlorine disinfection and found it very useful in an epidemic of puerperal fever in his hospital.

Skoda another distinguished friend of Semmelweis<sup>W</sup> and impressed by his work, pleaded for the appointment of a commission to investigate the subject.

Many of the well known obstetricians then, however disagreed with the findings and views of Semmelweis<sup>W</sup>. These obstetricians included Klein, a colleague of Semmelweis, Stolz, L. Braun, Scanzoni, and others less well known.

Semmelweis<sup>W</sup> it must be noted was never able to lower his Death Rate to that of his predecessor Boër. Boër, we are pleased to note, had learned the British methods of obstetrical practice - his chief teacher being Denman - the two essential principles he stood by being "cleanliness" and "patience". Boër became Professor of Midwifery in Vienna in 1789 after his return from Britain. He immediately introduced British methods. During the thirty-three years he held the post 65,000 patients came under his care in the lying-in hospital. Of these 850 died - an average annual mortality of 1.3%. In his last year it was .8%. Boër never did teach his pupils upon the cadaver.

Professor Klein who followed Boër as Professor

in 1822 was not so particular and in 1823 (his first year as Professor) the mortality rose to 7.8%.<sup>79</sup>

The death rate even went higher. In some months it rose to 20.84% and 29.33%. This resulting from the introduction of cadaveric poison.

I think Semmelweis at first insisted too much upon "cadaveric poisoning" as the main cause of puerperal fever. The result was his theory was not at all readily accepted. Later, however, he did state that puerperal fever could occur from infection from any wound if there was decomposing organic matter present.

Much controversy raged over the views of Semmelweis. Even up to his death in 1865 (from blood poisoning) much difference of opinion existed on the subject of puerperal fever.

In 1858 the Aetiology and Prophylaxis of Puerperal Fever was discussed by the leading French Obstetricians at a meeting in Paris. The introduction of some specific poison at the placental wound, or other wound surface after labour was admitted to be the cause of Puerperal Fever. This was stated by Danyau and Trousseau.

Tarnier on his own advised the isolation of all puerperal cases. He first suggested "Puerperal Septicaemia" as he stated Puerperal Fever was a form of blood poisoning.

The acceptance of the theories of Semmelweis was not general until Lister and Pasteur announced their discoveries of the specific organisms of



infection.

Pasteur in 1860-1863 experimenting on milk fermentation said the germs in the air caused putrefaction.

Lister<sup>52</sup> confirmed Pasteur's observations and was the first to attempt to apply this knowledge with advantage to Surgery. He attempted to treat wounds in germ free atmosphere.

Lister's views were confirmed by other surgeons, and soon there took place a complete change in the prevention and treatment of all forms of wound infection.

In 1870 Matthew Duncan published his great work on the mortality of childbirth and maternity hospitals. He reviewed a large number of statistics as to puerperal morbidity in private practice and in hospital. He concluded that the Death Rate from puerperal fever then in England was about 1 in 120 of all women within four weeks of delivery.

Discovery of the infecting micro-organisms of Puerperal Fever.

1864 - Rokitansky found micro-organisms in the lochia puerperal fever.

1865 - Meyerhofer identified the streptococcus.

1869 - Coze and Feltz found organisms in the blood of a fatal case of puerperal infection.

1879 - Pasteur<sup>63</sup> proved the relationship between these organisms and puerperal infection. He examined the lochia from cases at the Hôtel-Dieu in Paris. He also examined the blood from cases of Puerperal Septicaemia. He

found organisms in both cases in large numbers, and in the body tissues after death.

Pasteur's observations were soon confirmed by R. Koch, Döderlein, Fraenkel, Doléris, Krönig, Menge, and others.

Our knowledge of the bacteriology of puerperal infection at the present day is based on these findings of Pasteur.

Similarly the discoveries of Lister in the principles and practice of antiseptics put into our hands the key of control and management of puerperal infection.

## ETIOLOGY.

Puerperal Infection is a wound infection which may be due to several different micro-organisms. Broadly speaking, however, these germs may be divided into two classes: Firstly there are the parasitic organisms which are capable of thriving in and upon living tissues. Secondly there is a group of organisms, the saprophytes, which are only capable of living on dead tissues.

Organisms of the parasitic class produce the most serious forms of the disease - they have the power of passing into and multiplying in the body of the patient.

### Sources of Infection

There are two modes of infection:-

1. Extrinsic Infection.
2. Intrinsic Infection.

#### 1. Extrinsic Infection.

When Extrinsic Infection occurs the organisms causing the mischief are derived from outside the patient's body.

This is the more important and frequent mode of entrance of organisms into the genital tract. Conveyance is a necessity and in the majority of cases the pathogenic germs are introduced during delivery either by the doctor, nurse or ~~hand~~woman through the

medium of their hands, clothing, saliva, sweat, hair or instruments. Other possible agents are ligatures and sutures used or even the swabs, sheets or dust of the room in which the labour is conducted.

?  
disinfect  
imp. from  
Attendants  
See p. 18.

Pathogenic organisms can be introduced during pregnancy but almost always infection occurs during labour or the early puerperium as a result of direct introduction of organisms.

The severe forms of Puerperal Infection invariably result from organisms derived from some source external to the patient and introduced by the hands of the attendant either directly or indirectly by manipulative interference.

One can understand the risks especially in the second stage of labour - in the presence of fresh wound surfaces on the cervix and upper part of the vagina. Also the risk after delivery when a hand is introduced into the uterus. The liability to infection is also greatly increased by any operative or manipulative measures, bruising of tissues, etc. The liability to infection is also in almost direct proportion to the frequency of vaginal and cervical examinations.

Then I might mention the risk of the vaginal douche - with it organisms are so easily introduced into the generative tract especially in bad surroundings. It is possible also to have infection arise as a result of the patient lying in dirty linen and if dirty diapers are used.

Organisms are stated to exist in bath water, but I should think there is little or no risk to a healthy woman of bath infection. It is possible should she suffer from any perineal abrasions or have an unduly patent vagina, micro-organisms might enter the generative tract.

Infection by air used to be thought of rare occurrence, but is it? We know that in the act of sneezing or coughing organisms may be expelled several feet through the air. Therefore how easy for an attendant to infect a case by such exhalations. Streptococci, Staphylococci and diphtheria bacilli may be projected from the mouth and throat and deposited on wounds of the genital tract during or after delivery.

Sexual intercourse indulged in within a few days of delivery may introduce pathogenic organisms through the medium of a urethra of a healthy man (streptococci staphylococci, diphtheroids, gonococci). H. Bär 5 records two cases of puerperal fever, one of which was fatal, where coitus a few hours before delivery was apparently the cause of infection, especially as in the one case the same micro-organisms (gram-positive diplococci) were found in the wife's vaginal secretion and on the husband's prepuce. *penis*

In the series of cases I have examined bacteriologically the Streptococcus Haemolyticus appears to play the most important part in the causation of severe Puerperal infection. The

natural habitat of the haemolytic streptococcus is the throat. Hence the importance of "droplet infection".

In support of this view it is mentioned that in January 1928 an outbreak of puerperal fever occurred in a maternity institution in Aberdeen in which twelve cases became infected, of whom four died. The outbreak was found to be caused by the haemolytic streptococcus. An outbreak of icterus neonatorum accompanied it, which proved fatal in seven cases and in two of the fatal cases the haemolytic streptococcus was proved to be the cause of the infants' death from septicaemia. Throat cultures were taken from the twelve nurses in the institution, and in five of them the haemolytic streptococcus was found. Seventeen contacts among patients were also examined, with the result that in eight of them haemolytic streptococci were found in either the throat or the uterus, or in both - that is eight out of seventeen examined were found to be carriers. 25

Accordingly is it not very possible that many individual doctors and midwives may unconsciously be carriers of the haemolytic streptococcus, and may convey infection to their patients by "droplet infection"? It is stated that in Aberdeen during the period of the enquiry the death rate from sepsis among women privately attended by doctors was nearly double the rate found in women who had been delivered by midwives, either alone or with medical assistance.

It is also more likely that doctors become carriers of this organism than midwives, as the medical attendant is much more in contact with other diseases of streptococcal origin, such as scarlet fever, erysipelas and various other pyogenic conditions. The midwife is relatively immune from risks of contact with these conditions.

Dr. T.F. Dewar<sup>44</sup> in a preface to the Aberdeen report points out some of the difficulties in accepting the theory of throat infection as the usual channel by which the infecting organisms reach the maternal passages.

Throat Infection by the "droplet method" does offer an explanation of those cases of puerperal infection which occur in patients who can be proved not to be carriers of streptococci themselves in the cervical or vaginal secretions, and have been confined in hospitals of repute.

However, evidence in support of the theory of throat infection cannot be regarded as conclusive. It is quite probable that some haemolytic streptococci could be found in the throats of the majority of healthy persons, and proof requires something further than their presence in the throat of the accoucheur at the bedside.

If a case of acute infection occurs in a hospital we know that it is liable to spread by gross contagion from one woman to another, and also to the infants.

I think also the more severe types of puerperal



infection are produced by organisms which have passed through the human body, and are thus highly virulent. Hence the great importance of isolation of the infected case. A clean case may be exposed to grave danger from infection by organisms from the lochia of a puerperal woman. Infection may be carried by instruments, dressings and hands. This used to cause deadly epidemics of puerperal infection in hospitals in the last century.

It is well known that any cracks, fissures or abrasions on the hand of the attendant being infected with pyogenic bacteria may give rise to puerperal infection. What is important and is too often lost sight of is the fact that such lesions are very difficult or even impossible to disinfect by washing. Similarly an attendant suffering from such infective lesions as - eczema, cellulitis of finger or onychia may convey infection to a healthy woman and as a result she runs a grave risk of a rapid and fatal septicaemia.

I have mentioned "droplet infection". It is also possible for attendants suffering from otitis media, various throat and nose affections, etc. to infect normal cases during or just after delivery.

## 2. Intrinsic Infection.

Conveyance is not a necessity if the septic organisms are already resident in the generative tract, but it is a necessity when the organisms come from some



other area of the body. The possible agents of conveyance are then not only the hands of the attendant but also the blood stream and lymphatic stream of the patient.

Contact infection may occur from organisms in the patient herself. The vulva and labia may harbour pathogenic organisms. Conditions such as - vulvitic, eczema of vulva, - Furunculosis, bartholinitis (usually genococcal or genococcal plus streptococcal infection), haemorrhoids (especially if ulcerated), fistula in <sup>and</sup> one fissure in ano, may all give rise to infection of generative tract.

Similarly urethritis, cystitis<sup>is</sup>, pyelitis -any or all of which may be due to genococci, B.Coli or streptococci. These organisms have apparently little virulence - 32 cases of pyelitis existing at the time of delivery recorded by Walthard in "handbuh<sup>87</sup> "dee Geburtshuife von Winckel" - 1844, 1845, 1846. the puerperum was normal.

Organisms may exist on the vulva or perineum derived from the lower intestine. Such organisms as Bacillus Coli, Bacillus Aerogenes Capsullatus or other putrefactive bacteria may be quite abundant on the external genitals after delivery if any lack of cleanliness is employed. These micro-organisms, however, appear to have small powers of penetration and apparently by the third or fourth day of the puerperium when a resistance zone of granulation tissue formed around any wound, they have difficulty in

breaking through such a barrier.

Then we have the possibility of infection occurring in a patient through the medium of her fingers. This may occur when the patient is afflicted with some infective focus in the body, such as:- Nipple fissure, infective conditions of the mouth, nose or throat, otitis media, varicose ulcer, septic sore on the finger.

Septic inflammation of the genital canal during labour or in the puerperium may be considered, according to Young,<sup>99</sup> as falling into one or other of three clinical types according as it is caused.

1. Auto-infection.
2. Trauma.
3. Contagion.

The term Contagion including all the routes by which any droplet infection, such as a streptococcal infection, is spread.

It is well known that for no reason certain cases that have never been handled or interfered with in any way become infected during the puerperium.

Pyogenic organisms may lie in the uterus or vagina before labour sets in. We know that streptococci are often present in the genital passages of pregnant women, but we cannot say that these streptococci play any part in initiating puerperal infection. The type of streptococcus so often present in the genital passage is non-haemolytic.

19. 27. 54

Now severe puerperal infection apparently is due to a

haemolytic streptococcus.

Burt White and Armstrong<sup>15</sup> found streptococci of various kinds in the cervix of 40 per cent of 55 pregnant women examined. They found that one strain alone presented the characters of streptococcus pyogenes. In 15 of these cases including the one harbouring the streptococcus pyogenes in the cervix, the women were carefully watched during their puerperium and in none did symptoms arise.

These findings support James Young's view "that "auto-infection as a primary factor plays a quite "unimportant part in the death rate from sepsis, and "that in our search for essential causes we must "address ourselves to the remaining factors of contagion and trauma". At the same time we must not forget that the normally harmless inhabitants of the genital passages may under certain conditions assume pathogenic powers, especially should bruising and devitalization of tissue occur.

#### Contagion.

The important influence of contagion is shown by the outbreak of puerperal septicaemia which occurred in a maternity institution in Aberdeen in 1928.<sup>44</sup>

The original source of infection in this outbreak was never discovered but the authorities viewed with suspicion a case of septic abortion which had been admitted to the institution just previous to the outbreak.

The records of hospitals which existed before the days of Lister show us the predominant part played by Contagion. In 1774 at the Hôtel Dieu, Paris, every patient attacked died, altogether about half the patients confined in the hospital.<sup>82</sup>

During the years 1840 to 1846 in the large hospital at Vienna out of 21,120 women delivered, 2,260 died, or about 1 in every 10 mothers delivered perished, chiefly from Puerperal Fever.<sup>77</sup>

In institutions epidemics of puerperal fever still occur, although not so severe as in pre-antiseptic days. Take Aberdeen, I have mentioned the outbreak which occurred in an institution there in 1928. The Aberdeen statistics of Puerperal Sepsis show that similar outbreaks of puerperal sepsis occurred in 1922 and 1924.- and all spread by gross contagion.

A reduction of the mortality rate from sepsis in Aberdeen would surely have resulted had these outbreaks been prevented.

Thus contagion still plays a part in infection; but it is probably a minor one now-a-days. For example, during the year 1927 there were 53,502 deliveries in the practice of the midwives of the Queen Victoria's Jubilee Institute in England and Wales with 6 deaths from sepsis in normal births - that is 1 in 8,900 total deliveries, or about 0.1 in 1,000. This total figure referring to all cases including abnormal as well as normal. Exclude the forceps case

the rate is 1 in 8,000, or 0.12 in 1,000.

It is understood that in England and Wales midwives carry out over 50% of the maternity work and over 30% in Scotland, thus I think the above figures show that contagion is rare in the midwife's practice.

The Aberdeen figures <sup>44</sup> show that the sepsis rate in the practice of midwives is 1.0 per 1,000 maternity cases, as against 1.7 in the practice of doctors, and 4.5. in in-patient institutional practice.

There is no doubt that this high incidence of sepsis in the maternity institutions in Aberdeen has been due to contagion.

Then again gross contagion may occur where there has been the minimum of interference and no vaginal examination made, infection being carried to the labia on the fingers or dressings of the doctor or nurse, or in some other way.

### BACTERIOLOGY

I have investigated 130 successive cases of Puerperal Infection. Every case on admission to Hospital had a blood culture taken. In most of the cases (89), cultures from the uterus were taken. A few cases which came into Hospital at the beginning of the year 1929 had no uterine culture taken. In a few other cases it was not possible to obtain uterine cultures, such cases being too ill to be put up in the lithotomy position to enable a proper specimen to be taken.

Only aerobic cultures were made as it was all facilities permitted. Anaerobic organisms are said to play only a very minor role in the production of the disease. Kinloch, Smith and Stephen<sup>44</sup> in their investigations on Maternal Mortality in Aberdeen only made aerobic cultures.

For the routine examination by blood culture 15 c.c. to 20 c.c. of blood was withdrawn by vein puncture. Perfect asepsis being observed in each case. The blood was immediately inoculated into a flask of bouillon. The amount of sterile bouillon in the stoppered flask being 100 c.c. The flask also contained 1 per cent peptone, 0.2 per cent disodium hydrogen phosphate, 0.1 per cent glucose and 0.2 per cent sodium citrate as recommended by Mackie and



and McCartney. 56

Mackie and McCartney recommend the bouillon to be made from a veal extract. I prepared the bouillon from the ordinary Lab-Lemco and found it quite satisfactory.

The blood cultures were incubated for a period of four to five days at 37 degrees centigrade. Sub-inoculations were then made on blood-agar plates and on a Loeffler blood serum slope by the successive stroke method. These sub-cultures were then incubated for a further twenty four hours at 37 degrees centigrade. Any organisms then developing were identified by their microscopic and colony appearances films being made in the usual way and stained with Gram's stain.

The material for the uterine culture was taken on the morning following the patient's admission to Hospital. The procedure was as follows:-

1. The external genital region was shaved and cleansed with ether soap and weak lysol solution by the Ward Sister an hour or so before examination.

2. The patient was placed in the lithotomy position.

3. The external genital region was again cleansed with weak lysol solution (1 in 160).

4. The vagina was cleansed with weak lysol solution.

5. A duck-bill speculum was then introduced into the vagina and the os uteri brought into view.

6. The os uteri was then cleansed with a sterile swab and the cervical canal with a sterile swab on a probe.

7. An ordinary throat swab was then very carefully introduced within the os uteri and material taken for examination.

8. The swab was then immediately spread over a blood agar plate and taken to the laboratory.

If I found the os uteri was displaced after careful cleansing a gentle grip was taken of it with a vulsellum, but this was very rarely necessary.

Harris and Brown<sup>35</sup> vastly prefer the use of the Little Tube,<sup>53</sup> to the introduction of a cotton swab directly into the uterine cavity. I certainly think the Little Tube may have its advantages, but for ordinary purposes the throat-swab if used carefully to avoid contamination in the cervical canal is quite satisfactory.

The blood agar plates I used for my uterine cultures were made as follows:-

Human blood was obtained in the usual manner by vein puncture. About 20 c.c. of human blood was added to a sterile flask containing glass beads. Agitation was kept up for ten minutes to ensure that



all the fibrin had separated. About 15 c.c. of the blood was then added to 200 c.c. of 3 per cent melted agar at 45°C. All was then shaken up slowly to avoid bubble formation, and then the required amount was poured into each sterile petri dish.

The blood Agar plates after inoculation were incubated for twenty four hours at 37 degrees Centigrade. They were then examined for the presence of haemolysis, and the number, size and colour of the colonies noted. Suitable colonies were picked off and examined in the usual way - films being stained with Gram's stain. If a mixed growth occurred on the blood agar plate further investigations were carried out in the usual manner. For example, if streptococci were found in mixed culture with other organisms, streptococcal colonies were carefully picked off and sub-inoculated on a fresh blood agar plate.

#### Nomenclature:-

Owing to the various methods of classification in use at the present time, one is doubtful as to the criteria adopted by different authors in the naming of organisms. The term "Streptococcus Pyogenes" is sometimes used to include a wide, sometimes a very limited, group.

I. In the following notes I have indicated the

the criteria I have applied in doubtful cases:-

Streptococci:-

In most of my cases I have merely followed Kinloch, Smith and Stephen with regard to their grouping of streptococci, i.e., I have noted whether the streptococcus present was haemolytic or non-haemolytic. This was done as has been described above. However, in a few of the later cases I have investigated I have gone further and classified all strains according to Holman.<sup>41</sup>

The following table illustrates this classification:-



Suitable colonies of streptococci were picked off the blood agar plates and cultures of peptone water agar containing the sugars, lactose, mannite and salicin were inoculated.

I prepared this medium as follows:-

Ordinary peptone water was solidified with 2% agar with just enough litmus added to render the medium a light blue colour. The sugars (lactose, mannite and salicin - all 10% sterile) were then added while the agar was warm. I used .5 c.c. of 10% sugar to 5 c.c. of medium and sloped the culture in the usual manner. After solidification had taken place I ran a few drops of sterile human serum over the surface of the medium by means of a large platinum loop. After inoculation these cultures were incubated for 48 hours and then examined for fermentation. If fermentation occurred it was invariably noted first near the bottom of the tube.

Other Organisms noted:-

Enterococci.

Enterococci simulated Holman's "Streptococcus faecalis". They differ from other streptococci fermenting the same sugars morphologically and in the appearance of their colonies. The cocci are nearly always in pairs. They are oval and lanceolate in shape just like the pneumococcus. Colonies on blood agar are larger and more of a dirty brownish white colour than the colonies of other streptococci. These organisms grow well on MacCondeys medium - the colonies being small, red in colour and circular in shape.

Staphylococci.

Using as a basis the terminology of Andrewes and Gordon <sup>2</sup> and of Hine <sup>38</sup> the staphylococci fermenting lactose and mannite have been called Staphylococcus Pyogenes (albus - giving white colonies or Aureus - giving yellow colonies).

The Staphylococci fermenting lactose only have been called Staphylococcus epidermidis (white) and those which do not ferment either lactose or mannite Staphylococcus Salivarius.

Diphtheroids.

Organisms noted to be gram positive and rod shaped I have called Diphtheroids. These organisms in addition sometimes showed stained granules and had club shaped swelling of the poles.

The term Diphtheroids is based on the definition given in the Medical Research Council Monograph on Diphtheria.

#### Coliform Bacilli

Gram Negative bacilli about 2 to 4 u by 0.5u were observed on several occasions. Larger filamentous forms and short cocco-bacillary forms were also noted. They all gave Acid and Gas when put through the sugars - Lactose, Glucose and Mannite.

#### Other Organisms

Gram positive cocci were noted on one or two occasions. Their colonies were often noted to be "crumbly" as described by Bryce.<sup>12</sup>

A gram positive coccus bean like in shape occurring in pairs and resembling the Gonococcus in that was observed. This coccus was also described by Bryce.<sup>12</sup> These cocci appear to be unclassified.

Other Gram positive cocci differing both culturally and morphologically from Staphylococci were noted.

The Gonococcus was found in only 2 cases.

Some unidentified Gram positive bacilli were also noted.



DETAILS OF 130 CASES of PUERPERAL INFECTION.

FATAL CASES IN RED.

CASE.	LEUCO: COUNT.	BLOOD CULTURE.	UTERINE CULTURE.	NATURE OF DELIVERY	DAY OF PUERPERIUM ON ADMITS: HOSPITAL.	DAY OF DISEASE ON ADMITS: HOSPITAL.	NUMBER OF DAYS OF DURATION OF FEVER IN HOSPITAL.	NUM: BER OF DAYS IN HOS: PITAL	REMARKS AND NOTES REGARDING TRAUMA: TIZATION OF GENITAL TRACT.
1.	14,600	Negative	Non-haemolytic Streptococci (Streptococcus Faecalis).	Forceps Delivery	8	3	4	20	Cervix & Vagina lacerated.
2.	16,000	Negative	Haemolytic Streptococci (Streptococcus Pyogenes).	Craniotomy	6	6	20	44	Cervix, Vagina & Perineum = lacerated. B.Coli Bacilluria
3.	29,200	Negative	Haemolytic Streptococci (Streptococcus Pyogenes).	Forceps Delivery.	8	8	7	28	Cervix, Vagina & Perineum = lacerated. B.Coli, Bacilluria
4.	17,200	Negative	Haemolytic Streptococci (Streptococcus Anginosus).	Normal Delivery	4	1	5	22	Cervix = lacerated
5.	13,400	Negative	Non-haemolytic Streptococci (Streptococcus Salivarius) Few Diphtheroids.	Persistent R.O.P. Forceps Delivery	5	2	8	27	Cervix, Vagina & Perineum = lacerated B.Coli, Bacilluria
6.	17,400	Negative.	Non-haemolytic Streptococci (Streptococcus Ignavus)	Normal Delivery	13	10	5	19	Cervix = lacerated B.Coli Bacilluria
7.	21,000	Negative	Non-haemolytic Streptococci (Streptococcus Faecalis)	Breech Presentation Much manipulation.	5	5	4	22	Cervix, Vagina & Perineum = lacerated. B.Coli Bacilluria

	LEUCOCYTE COUNT.	BLOOD CULTURE.	UTERINE CULTURE	NATURE OF DELIVERY.	DAY OF PUERPERIUM ON ADMISSION TO HOSPITAL	DAY OF DISEASE ON ADMISSION TO HOSPITAL	NUMBER OF DAYS DURATION OF FEVER IN HOSPITAL	NUMBER OF DAYS IN HOSPITAL	REMARKS AND NOTES REGARDING TRAUMATIZATION OF GENITAL TRACT.
8.	12,000	Negative	Not taken.	Normal Delivery.	9	8	1	23	Vagina & Perineum = lacerated. Cystitis & coccal Urinary infection. Cervix = lacerated. B. Coli Bacilluria ? Tubercular Enteritis.
9.	14,200	Negative	Not taken	Normal Delivery.	8	3	68	77	Vagina & Perineum = lacerated. B. Coli Bacilluria ? Tubercular Enteritis.
10.	14,100	Negative	Not taken	Forceps Delivery	9	8	10	28	Vagina & Perineum = lacerated.
11.	11,000	Negative	Not taken	Normal Delivery.	7	2	3	20	Cervix & Vagina = lacerated. Bronchitis
12.	9,600	Negative	Not taken	Normal Delivery.	7	2	7	25	Cervix, Vagina and Perineum = lacerated. B. Coli, Bacilluria
13.	14,410	Negative	Not taken	Forceps Delivery.	10	4	4	14	Cervix & Vagina = lacerated.
14.	15,600	Negative	Not taken	Normal Delivery.	7	4	16	38	Cervix = lacerated Bronchitis.

CASE	LEUCOCYTE COUNT.	BLOOD CULTURE.	UTERINE CULTURE	NATURE OF DELIVERY	DAY OF PUERPERIUM ON ADMISSION TO HOSPITAL	DAY OF DISEASE ON ADMISSION TO HOSPITAL	NUMBER OF DAYS DURATION OF FEVER.	NUMBER OF DAYS IN HOSPITAL	REMARKS AND NOTES REGARDING TRAUMATIZATION OF GENITAL TRACT.
15.	10,800	Negative.	Not taken	Normal Delivery	3	3	2	12	Cervix = lacerated
16.	16,600	Negative.	Not taken	Normal Delivery	10	6	9	23	No laceration of Genital Tract. B.Coli, Bacilluria
17.	8,000	Negative	Not taken	Caesarean Section for Central Placenta Praevia.	7	7	1	19	No laceration of Genital Tract.
18.	11,400	Negative	Not taken	Normal Delivery	8	3	3	23	No laceration of Genital Tract. Coccal Urinary Infection.
19.	12,200	Negative.	Not taken	Normal Delivery Post-Partum Haemorrhage	7	3	7	24	Cervix & Perineum = lacerated. B.Coli, Bacilluria
20.	16,800	Negative	Not taken	Normal Delivery.	5	5	6	27	Cervix = lacerated.
21.	10,200	Negative	Not taken	Labour induced (quinine & Pituitrin)	5	5	1	15	Vagina = lacerated



CASE.	LEUCOCYTE COUNT.	BLOOD CULTURE.	UTERINE CULTURE.	NATURE OF DELIVERY.	DAY OF PUERPERIUM ON ADMISSION TO HOSPITAL.	DAY OF DISEASE ON ADMISSION TO HOSPITAL.	NUM- BER OF DAYS DURA- TION OF FEVER.	NUM- BER OF DAYS IN HOS- PITAL.	REMARKS AND NOTES REGARDING TRAUMA- TIZATION OF GENITAL TRACT.
22	9,880	Negative	B. Coli Staphylococci (albus)	Normal Delivery Post-Partum Haemorrhage	6	4	7	20	No laceration of Genital Tract. B.Coli Bacilluria
23	16,000	Negative	Haemolytic Streptococci	Forceps Delivery	5	5	13	39	Cervix, Vagina & Perineum = lacerated B.Coli, Bacilluria
24	12,200	Negative	Non-Haemolytic Streptococci	Forceps Delivery	11	4	5	27	Cervix & Perineum = lacerated.
25.	16,000	Negative	Non-Haemolytic Streptococci	Forceps Delivery	8	8	11	25	Cervix & Perineum = lacerated.
26.	11,000	Negative	Staphylococci (albus) Few Non- haemolytic Streptococci	Normal Delivery	5	3	3	17	Perineum = lacerated
27	18,000	Negative	Haemolytic Streptococci B.Coli	Forceps Delivery	8	8	25	73	Cervix = lacerated B.Coli Bacilluria
28.	13,000	Negative.	Haemolytic Streptococci	Normal Delivery	11	4	8	24	Cervix = lacerated

CASE.	LEUCO-CYTE COUNT.	BLOOD CULTURE.	UTERINE CULTURE.	NATURE OF DELIVERY.	DAY OF PUERPERIUM ON ADMISSION TO HOSPITAL.	DAY OF DISEASE ON ADMISSION TO HOSPITAL.	NUMBER OF DAYS DURATION OF FEVER.	NUMBER OF DAYS IN HOSPITAL.	REMARKS AND NOTES REGARDING TRAUMATIZATION OF GENITAL TRACT.
29	19,800	Negative.	Non-Haemolytic Streptococci Staphylococci (albus)	Normal Delivery.	6	2	2	20	Cervix & Perineum = lacerated.
30	12,000	Negative	B.Coli Staphylococci (aureus)	Persistent O.P. Forceps Delivery, Episiotomy	6	2	3	8	Cervix & Perineum = lacerated
31.	18,000	Negative	Haemolytic Streptococci Staphylococci (albus)	Normal Delivery Post-Partum Haemorrhage.	6	3	22	35	Cervix = lacerated. B.Coli, Bacilluria.
32.	8,600	Negative	Haemolytic Streptococci Unclassified Gram. positive diplococci.	Normal Delivery	11	4	2	20	Cervix = lacerated.
33.	9,000	Negative	Sterile. (No Growth)	Normal Delivery.	18	14	6	17	Genital Tract not examined. Case of Serum Disease.
34.	13,200	Negative	Unidentified Gram. positive bacilli. Staphylococci (albus)	Forceps Delivery	5	2	4	22	No laceration of Genital Tract.
35.	13,600	Negative.	Haemolytic Streptococci Staphylococci (albus)	Forceps Delivery	5	4	4	20	Cervix = lacerated. Mild Cystitis.



CASE.	LEUCO-CYTE COUNT.	BLOOD CULTURE.	UTERINE CULTURE.	NATURE OF DELIVERY.	DAY OF PUERPERIUM ON ADMISSION TO HOSPITAL.	DAY OF DISEASE ON ADMISSION TO HOSPITAL.	NUMBER OF DAYS DURATION OF FEVER IN HOSPITAL.	NUMBER OF DAYS IN HOSPITAL.	REMARKS AND NOTES REGARDING TRAUMATIZATION OF GENITAL TRACT.
36.	16,000	Negative	B.Coli. Staphylococci (albus)	Unknown	10	4	3	16	No laceration of Genital Tract. B.Coli. Bacilluria
37.	17,200	Negative.	B.Coli Staphylococci (albus) Diphtheroids	Normal Delivery	3	1	5	22	Cervix, Vagina & Perineum = lacerated. Mild Cystitis.
38.	14,000	Negative	Sterile. No Growth.	Normal Delivery	8	1	1	18	No laceration of Genital Tract. B.Coli, Bacilluria
39.	12,500	Negative	Non-Haemolytic Streptococci	Normal Delivery	4	3	7	23	Cervix = lacerated B.Coli, Bacilluria
40.	17,700	Negative	Haemolytic Streptococci Staphylococci (albus)	Normal Delivery	5	4	14	27	Cervix = lacerated Mild Cystitis.
41.	8,600	Negative	B.Coli. Staphylococci (albus)	Normal Delivery	5	3	4	16	No laceration of Genital Tract. Mild Cystitis.
42.	16,300	Negative	Haemolytic Streptococci.	Normal Delivery Post-Partum Haemorrhage.	4	4	4	25	Cervix and Vagina = lacerated.

CASE.	LEUCOCYTE COUNT.	BLOOD CULTURE.	UTERINE CULTURE	NATURE OF DELIVERY.	DAY OF PUERPERIUM ON ADMISSION TO HOSPITAL.	DAY OF DISEASE ON ADMISSION TO HOSPITAL.	NUMBER OF DAYS OF DURATION OF FEVER IN HOSPITAL.	NUMBER OF DAYS IN HOSPITAL.	REMARKS AND NOTES REGARDING TRAUMATIZATION OF GENITAL TRACT.
43	15,720	Negative.	Non-Haemolytic Streptococci	Normal Delivery Episiotomy	5	4	9	25	Cervix & Perineum = lacerated. B.Coli, Bacilluria
44.	12,000	Negative	Enterococci	Normal Delivery.	7	2	1	13	Cervix = lacerated
45.	13,500	Negative	Sterile No Growth	Normal Delivery..	7	7	0	17	Perineum = lacerated.
46.	11,250	Negative	Not taken.	Normal Delivery	12	3	2	10	No laceration of Genital Tract.
47.	18,750	Negative	Gram Positive Diplococci Few Staphylococci (albus)	Normal Delivery	7	4	11	30	Cervix = lacerated Nephritis. Coccal Urinary Infection. Pleurisy.
48.	16,500	Negative	Haemolytic Streptococci	Forceps Delivery	6	3	9	31	Cervix, Vagina & Perineum = lacerated. Nephritis. Coccal Urinary Infection.
49.	14,300	Negative	Haemolytic Streptococci	Central Placenta. Praevia. External Version. Leg brought down.	8	5	6	18	No laceration of Genital Tract. Coccal Urinary Infection

CASE.	LEUCOCYTE COUNT.	BLOOD CULTURE.	UTERINE CULTURE.	NATURE OF DELIVERY.	DAY OF PERPETR- TUM ON ADMISSION TO HOS- PITAL.	DAY OF DISEASE ON ADMISS- SION TO HOSPITAL	NUMBER OF DAYS OF DURATION OF FEVER IN HOSPITAL.	NUM- BER OF DAYS IN HOS- PI- TAL	REMARKS AND NOTES REGARDING TRAUMA- TIZATION OF GENITAL TRACT.
50	12,300	Negative	Unidentified Gram positive bacilli Gonococci	Normal Delivery	5	1	7	23	No laceration of Genital Tract.
51.	10,000	Negative	B. Coli Staphylococci (albus)	Caesarean Section.	11	10	1	18	No laceration of Genital Tract. B.Coli, Bacilluria. Cervix, Vagina and Perineum = lacerated Nephritis. Mild Cystitis Bronchitis.
52.	19,900	Negative	Haemolytic Streptococci	? Normal Delivery	3	2	13	34	Vagina & Perineum = lacerated, & B.Coli Nephritis, Coccals, Urinary Infection (Streptococci & B.Coli.) Bronchitis
53.	14,600	Negative	Non-Haemolytic Streptococci Staphylococci (albus)	Normal Delivery (Twins)	9	8	5	24	Cervix, Vagina & Perineum = lacerated
54.	12,000	Negative	Not taken.	Forceps Delivery	6	5	2	15	No laceration of Genital Tract. B.Coli, Bacilluria
55.	15,600	Negative	Unidentified Gram. positive bacilli. Gram positive cocci (uncles- sified). Few Staphylococci (albus)	Forceps Delivery	18	2	4	20	No laceration of Genital Tract. B.Coli, Bacilluria
56.	17,400	Negative	Staphylococci (albus)	Normal Delivery.	7	5	1	15	No laceration of Genital Tract. B.Coli, Bacilluria.

CASE.	LEUCO: CYTE COUNT.	BLOOD CULTURE.	UTERINE CULTURE	NATURE OF DELIVERY	DAY OF PUERPERIUM ON ADMIS: SION TO HOSPITAL	DAY OF DISEASE ON AD: MISSION TO HOS: PITAL.	NUMBER OF DAYS OF FEVER IN HOS: PITAL.	NUMBER OF DAYS IN HOS: PITAL	REMARKS AND NOTES REGARDING TRAUMATIZATION OF GENITAL TRACT.
57.	11,400	Negative	Contaminated. (B. Subtilis)	Forceps Delivery	6	6	2	17	Cervix = lacerated Coccal & B. Coli (Streptococci & B. Coli.) Urinary Infection
58.	16,500	Negative	Haemolytic Streptococci	Forceps Delivery	6	5	3	19	Cervix & Perineum = lacerated
59.	15,800	Negative	Non-Haemolytic Streptococci Diptheroids.	Normal Delivery	4	2	4	19	Cervix & Perineum = lacerated
44 60.	9,400	Negative	Non-Haemolytic Streptococci Staphylococci (albus)	Twins Delivered. Placenta removed manually	9	3	6	25	No laceration of Genital Tract
61.	8,200	Negative	Unidentified Gram positive bacilli Staphylococci (albus)	Forceps Delivery	14	14	1	13	Perineum = lacerated.
62.	9,600	Negative	Haemolytic Streptococci Unidentified Gram positive bacilli.	Forceps Delivery	6	3	3	19	Cervix & Perineum = lacerated.
63.	10,000	Negative	Definite acci: dental contami: nation (Staphylococci (albus))	Normal Delivery (R.O.A.)	9	7	1	12	Cervix = lacerated



CASE.	LEUCO: CYTE COUNT	BLOOD CULTURE.	UTERINE CULTURE.	NATURE OF DELIVERY	DAY OF PUERPERIUM ON ADMIS: SION TO HOSPITAL.	DAY OF DISEASE ON AD: MISSION TO HOS: PITAL.	NUMBER OF DAYS OF DURATION OF FEVER IN HOS: PITAL.	NUM: BER OF DAYS IN HOS: PITAL.	REMARKS AND NOTES REGARDING TRAUMA: TIZATION OF GENITAL TRACT.
64.	9,200	Negative	Non-Haemolytic Streptococci	Normal Delivery	5	3	10	30	Cervix = lacerated Congestion of Lung base. B.Coli. Bacilluria
65.	12,800	Negative	Unidentified Gram. positive bacilli.	Forceps Delivery	5	5	2	17	Cervix & Vagina = lacerated.
66.	12,200	Negative	Non-Haemolytic Streptococci	Normal Delivery	10	2	1	14	Cervix, Vagina & Perineum = lacerated.
67.	25,000	Negative	Gonococci Few Gram posi: tive diplococci	Forceps Delivery	25	20	6	29	Perineum = lacerated
68.	8,400	Negative	Haemolytic Streptococci Few Staphylo: cocci (albus)	Normal Delivery	14	6	11	52	Cervix & Perineum = lacerated. Mental symptoms on admission.
69.	9,200	Negative	Unidentified Gram positive bacilli	Normal Delivery	9	4	1	20	Cervix = lacerated B.Coli, Bacilluria
70.	17,400	Negative	Non-Haemolytic Streptococci (Streptococcus Salivarius).	Normal Delivery	8	5	1	18	Cervix & Vagina = lacerated. B.Coli. Bacilluria

CASE.	LEUCO: CYTE COUNT.	BLOOD CULTURE	UTERINE CULTURE	NATURE OF DELIVERY	DAY OF PUERPERIUM ON ADMIS: SION TO HOSPITAL	DAY OF DISEASE ON AD: MISSION TO HOS: PITAL.	NUMBER OF DAYS OF DURATION OF FEVER IN HOSPITAL	NUMBER OF DAYS IN HOSPI: TAL	REMARKS AND NOTES REGARDING TRAUMA: TIZATION OF GENITAL TRACT.
71.	28,000	Negative	Haemolytic Streptococci Staphylococci (albus)	?Normal Delivery	6	3	34	69	Cervix, Vagina & Perineum = lacerated. Nephritis. Coccal Urinary Infection. (Streptococci Staphylococci B.Coli).
72.	10,000	Negative	Non-Haemolytic Streptococci (Streptococcus Faecalis)	Normal Delivery	6	4	0	15	No laceration of Genital Tract.
73.	10,600	Negative	B. Coli	Labour Induced. (Contract: ed Pelvis)	3	2	3	24	Cervix & Vagina = lacerated B.Coli, Bacilluria
74.	22,600	Negative	Haemolytic Streptococci (Streptococcus Pyogenes) Enterococci	Frank Breech Impacted. Extraction with double Episiotomy	5	3	7	32	Cervix, Vagina & Perineum = lacerated B.Coli. Bacilluria
75.	17,200	Negative	Non-Haemolytic Streptococci (Streptococcus Faecalis).	Forceps Delivery	4	2	9	27	Cervix = lacerated
76.	13,200	Negative	Haemolytic Streptococci (Streptococcus Haemolyticus III Enterococci	Aborted (5th month)	5	3	11	28	No laceration of Genital Tract. Coccal Urinary Infection. (Strep: tococci, Staphlo: cocci. Gram posi: tive bacilli).
77.	18,600	Negative	Non-Haemolytic Streptococci	Forceps Delivery	12	5	12	40	Cervix & Vagina = lacerated.



CASE	LEUCO: CYTE COUNT.	BLOOD CULTURE	UTERINE CULTURE	NATURE OF DELIVERY	DAY OF PUERPERIUM ON ADMIS: SION TO HOSPITAL.	DAY OF DISEASE ON ADMIS: SION TO HOSPITAL.	NUMBER OF DAYS OF DURATION OF FEVER IN HOSPITAL	NUMBER OF DAYS IN HOSPIT: TAL.	REMARKS AND NOTES REGARDING TRAUMA: TIZATION OF GENITAL TRACT.
78.	16,800	Negative	Haemolytic Streptococci (Streptococcus Pyogenes)	Impacted Breech	6	4	14	37	Vagina & Perineum = lacerated. Coccal Urinary Infection. (Streptococcus Parametritis (slight)
79.	20,400	Negative	Not taken	Normal Delivery (Twins)	12	12	17	45	Cervix = lacerated Pelvic Cellulitis
80.	17,800	No Re: port	Non-Haemolytic Streptococci	Aborted (3½ months)	23	? 23	26	43	Genital Tract not examined. Pelvic Cellulitis. Pyelitis (mild) Cystitis. Cervix, Vagina & Perineum = lacerated. Pelvic Cellulitis. Phlebitis. Urinary Coccal Infection. (Gram positive cocci
81.	27,000	Negative	Not taken	Partial Placenta Praevia. Leg brought down. Post: Partum haemorrhage	5	3	30	84	
82.	21,400	Negative	Not taken	Normal Delivery.	9	3	43	53	Cervix = lacerated Double Pyosalpinx.
83.	20,600	Negative	Non-Haemolytic Streptococci (Streptococcus Salivarius)	Normal Delivery.	6	4	8	15	No laceration of Genital Tract. Mild Cystitis Pelvic Cellulitis
84.	16,300	Negative	Haemolytic Streptococci	Normal Delivery.	4	3	49	93	Cervix, Vagina & Perineum = lacerated Pelvic Cellulitis & Pelvic Peritonitis Coccal & B.Coli Urinary Infection (Streptococci B.Coli etc.)

CASE.	LEUCOCYTE COUNT.	BLOOD CULTURE	UTERINE CULTURE.	NATURE OF DELIVERY	DAY OF PUERPERIUM ON ADMISSION TO HOS: PITAL.	DAY OF DISEASE ON ADMISSION TO HOS: PITAL.	NUMBER OF DAYS OF DURATION OF FEVER IN HOSPITAL	NUMBER OF DAYS OF FEVER IN HOSPITAL	REMARKS AND NOTES REGARDING TRAUMATIZATION OF GENITAL TRACT.
85.	22,800	Negative	Haemolytic Streptococci (Streptococcus Pyogenes) Staphylococci (albus)	Forceps Delivery	18	15	9	31	No laceration of Genital Tract. Pelvic Cellulitis Pelvic Peritonitis
86.	8,000	Negative	Not taken	Normal Delivery after Failed Forceps	16	7	9	23	Vagina = laceration extending into Broad Ligament. Pelvic Cellulitis Pelvic Peritonitis R.Coli.Bacilluria.
87.	14,600	Negative	Not taken	Normal Delivery	9	3	4	17	No laceration of Genital Tract. Pelvic Cellulitis (mild).
88.	22,200	Negative	Not taken	Aborted (3rd Month) Curettage.	11	4	16	38	Genital Tract not examined. Pelvic Cellulitis.
89.	15,600	Negative	Haemolytic Streptococci Staphylococci	Aborted.	13	1	12	28	No laceration of Genital Tract. Pelvic Cellulitis.
90.	14,600	Negative	Unclassified Gram positive cocci	Normal Delivery	5	2	11	31	Perineum = lacerated Pelvic Cellulitis.
91.	7,100	Negative	Staphylococci (Aureus)	Forceps Delivery Placenta removed manually.	5	4	51	89	Cervix, Vagina & Perineum = lacerated Pelvic Cellulitis Arthritis, Nephritis (Coccal Urinary Infection. 27.B.Hid)



CASE.	LEUCO: CYTE COUNT.	BLOOD CULTURE	UTERINE CULTURE	NATURE OF DELIVERY.	DAY OF PUERPERIUM ON ADMIS: SION TO HOSPITAL.	DAY OF DISEASE ON ADMIS: SION TO HOSPITAL	NUMBER OF DAYS OF DURATION OF FEVER IN HOSPITAL	NUMBER OF DAYS IN HOS: PITAL	REMARKS AND NOTES REGARDING TRAUMA: TIZATION OF GENITAL TRACT.
92.	19,200	Negative	Not taken	Forceps Delivery.	9	?	16	44	Genital Tract not examined. White Leg.
93.	14,000	Negative	Not taken	Forceps Delivery	15	8	24	64	No laceration of Genital Tract. White Leg. Pneumonia
94.	11,000	Negative	Not taken	Forceps Delivery	22	18	9	41	No laceration of Genital Tract. White Leg.
95.	16,560	Negative	Non-Haemolytic Streptococci (Streptococcus Faecalis)	Normal Delivery	7	3	7	60	Cervix, Vagina & Perineum = lacerated White Leg. B. Coli. Bacilluria
96.	13,200	Negative	Not taken.	Aborted (2nd month)	6	6	4	5	Septic Erosions in Vaginal fornices. General Peritonitis -Abdomen opened. Nephritis.
97.	17,800	Negative	Non-Haemolytic Streptococci	Normal Delivery Episiotomy	8	5	4	5	Cervix & Perineum = lacerated. General Peritonitis
98.	33,600	Negative	Sterile No Growth	Normal Delivery	30	?	11	61	Genital Tract not examined. General Peritonitis - Abdomen opened. Mild Cystitis.



CASE.	LEUCO: CYTE COUNT.	BLOOD CULTURE	UTERINE CULTURE	NATURE OF DELIVERY	DAY OF PUERPERIUM ON ADMIS: SION TO HOSPITAL	DAY OF DISEASE ON AD: MISSION TO HOS: PITAL.	NUMBER OF DAYS OF DURATION OF FEVER IN HOSPITAL	NUMBER OF DAYS IN HOSPI: TAL	REMARKS AND NOTES REGARDING TRAUMA: TIZATION OF GENITAL TRACT.
99	20,800	Negative	Haemolytic Streptococci	Normal Delivery	4	2	13	42	Cervix = lacerated General Peritonitis
100.	22,000	Haemolytic Streptococci	Not taken	Brow presentation Version performed.	7	5	2	2	Cervix, Vagina & Perineum = lacerated General Peritonitis Septicaemia.
101.	11,000	Haemolytic Streptococci	Not taken	Normal Delivery	8	7	8	8	Genital Tract not examined. General Peritonitis Septicaemia.
102.	24,800	Haemolytic Streptococci	Not taken	Normal Delivery	26	24	33	59	No laceration of Genital Tract. Pelvic Cellulitis & Peritonitis. Nephritis. Mild Cystitis. Septicaemia.
103.	8,200	Haemolytic Streptococci	Not taken	Forceps Delivery (R.O.P.)	8	8	20	28	Cervix, Vagina and Perineum = lacerated Bronchitis. B.Coli. Bacilluria Septicaemia
104.	5,800	Haemolytic Streptococci	Not taken	Forceps Delivery	5	5	3	3	Genital Tract not examined. General Peritonitis. Septicaemia.
105.	10,200	Negative	Not taken	Unknown.	5	4	3	3	Genital Tract not examined. Septicaemia.



CASE.	LEUCO: CYTE COUNT.	BLOOD CULTURE.	UTERINE CULTURE	NATURE OF DELIVERY	DAY OF PUERPERIUM ON ADMISS- ION TO HOSPITAL.	DAY OF DISEASE ON AD- MISSION TO HOS- PITAL.	NUMBER OF DAYS DURATION OF FEVER IN HOSPITAL.	NUMBER OF DAYS IN HOSPI- TAL.	REMARKS AND NOTES REGARDING TRAUMA: : TITZATION OF GENITAL TRACT.
106.	25,600	Negative	Not taken	Normal Delivery	12	11	26	74	Cervix, Vagina and Perineum = lacerated. Gangrene of toe. Septicaemia.
107.	13,000	Negative	Non-Haemoly- tic Streptococci	Unknown	8	?	39	47	No laceration of Genital Tract. Pelvic Cellulitis & Peritonitis. Pleurisy & Pneumonia. B. Coli Bacilluria Septicaemia.
108.	16,000	Haemolytic Strepto: cocci.	Not taken	Normal Delivery (Twins) Much mani: pulation (2nd Stage)	31	31	67	117	Genital Tract not examined. White Leg. Bronchitis. B. Coli Bacilluria. Septi: caemia. & Pyaemia.
109.	15,800	Negative	Not taken	Normal Delivery	6	? 6	1	1	Genital Tract not examined. Septicaemia.
110.	12,100	Haemolytic Strepto: cocci	Not taken	Breech Presentation Much Mani: pulation.	7	2	1	1	Genital Tract not examined. Mitral Stenosis. Pneumonia Septicaemia.
111.	16,000	Haemolytic Strepto: cocci	Not taken	Normal Delivery	6	3	3	3	Cervix = lacerated. Puerperal Mania. Pyelitis (Streptococ: Septicaemia.
112.	17,400	Haemolytic Strepto: cocci	Haemolytic Streptococci (Streptococcus Pyogenes).	? Normal Delivery Post- Partum Haemorrhage	8	3	22	23	Cervix = lacerated Mild Cystitis. Empyema. Septicaemia.





CASE.	LEUCO: CYTE COUNT.	BLOOD CULTURE	UTERINE CULTURE	NATURE OF DELIVERY	DAY OF PUERPERIUM ON ADMIS: SION TO HOSPITAL.	DAY OF DISEASE ON AD: MISSION TO HOS: PITAL.	NUMBER OF DAYS DURATION OF FEVER IN HOSPITAL.	NUMBER OF DAYS IN HOSPI: TAL	REMARKS AND NOTES REGARDING TRAUMA: TIZATION OF GENITAL TRACT.
113.	7,400	Staphylococci (Staphyloco: cus Aureus)	Not taken.	Caesarean Section for Pla: centa Praevia	37	35	12	12	Genital Tract not examined. Pneumonia Coccal Urinary Infec: tion & B.Coli. (Streptococci & B.Coli) General Peritonitis Septicaemia.
114.	12,500	Negative	Haemolytic Strepto: cocci	Normal Delivery	6	3	45	60	No laceration of Genital Tract. Thrombophlebitis. Pelvic Veins Gangrene of feet. Septicaemia
115.	12,000	Haemolytic Streptococci	Haemolytic Streptococci	Normal Delivery	5	4	63	68	Cervix, Vagina & Perineum = lacerated. Double Emyema. Nephritis. Mild Cys: titis. Septicaemia.
116.	39,300	Negative	Haemolytic Strepto: cocci	Forceps Delivery after Failed Forceps.	4	3	17	52	Cervix & Perineum = lacerated. Nephritis B.Coli. Bacilluria Septicaemia.
117.	13,400	Haemolytic Streptococci	Haemolytic Streptococci (Streptococ: cus Pyogenes)	Failed Forceps. Cranioc: tomy.	3	3	9	10	Cervix, Vagina and Perineum = lacerated. Bronchitis. B.Coli. Bacilluria. Gangrene of feet. Septicaemia.
118.	12,200	Haemolytic Strepto: cocci.	Haemolytic Streptococci (Streptococ: cus Pyogenes)	Normal Delivery	5	2	5	6	Cervix & Perineum = lacerated. Gangrene of feet. Septicaemia.



CASE.	LEUCO: CYTE COUNT.	BLOOD CULTURE	UTERINE CULTURE	NATURE OF DELIVERY.	DAY OF PUERPERIUM ON ADMIS- SION TO HOSPITAL.	DAY OF DISEASE ON AD- MISSION TO HOS- PITAL.	NUMBER OF DAYS OF DURATION OF FEVER IN HOSPITAL	NUMBER OF DAYS IN HOSPI- TAL	REMARKS AND NOTES REGARDING TRAUMA: TIZATION OF GENITAL TRACT.
119.	8,400	Haemolytic Strepto: cocci	Haemolytic Streptococci (Strepto: cocci Pyogenes)	Normal Delivery	8	5	7	7	Vagina & Perineum = lacerated. Mental symptoms. Congestion of Lungs. Pelvic Cellulitis. Nephri- tis. Mild Cystitis Septicaemia.
120.	12,400	Haemolytic Strepto: cocci	Haemolytic Streptococci (Streptococcus Pyogenes)	Aborted (4th month) Post-Partum Haemorrhage Placenta removed manually	9	9	10	10	No laceration of Genital Tract. B.Coli. Bacilluria. Gangrene of foot. Septicaemia
121.	17,600	Non-Hae: molytic Strepto: cocci.	Non-Haemolytic Streptococci (Streptococcus Faecalis)	Aborted (4th month) Placenta removed manually. Haemorrhage	10	8	21	32	No laceration of Genital Tract. Pneumonia & Empyema. Septicaemia.
122.	4,000	Negative	Haemolytic Streptococci (Streptococcus Pyogenes)	Unknown Severe Post-Partum Haemorrhage	7	2	4	8	Cervix=lacerated. Gangrene of foot. Septicaemia.
123.	28,200	Haemoly: tic Strepto: cocci	Haemolytic Streptococci (Streptococcus Pyogenes)	Forceps Delivery. Placenta removed by Crede's Method.	4	2	25	56	Cervix, Vagina and Perineum=lacerated Pelvic Cellulitis & Thrombophlebitis of Pelvic Veins. Septicaemia.
124.	15,400	Haemoly: tic	Haemolytic Streptococci	Normal Delivery	4	3	33	37	Cervix=lacerated. Haemolytic Jaundice

CASE	LEUCO: CYTE COUNT	BLOOD CULTURE	UTERINE CULTURE	NATURE OF DELIVERY.	DAY OF PUERPERIUM ON ADMIS: SION TO HOSPITAL.	DAY OF DISEASE ON AD: MISSION TO HOS: PITAL.	NUMBER OF DAYS DURATION OF FEVER IN HOSPITAL	NUM: BER OF DAYS IN HOSP: TAL.	REMARKS AND NOTES REGARDING TRAUMA: TIZATION OF GENITAL TRACT.
125.	22,000	B. Coli.	B. Coli Few Non-haemoly: :tic Strepto: cocci. (Streptococcus non-Haemoly: ticus I).	Forceps Delivery	9	9	12	36	Cervix, Vagina & Perineum = lacerated. Pelvic Cellulitis B. Coli Bacilluria Septicaemia.
126.	21,400	Negative	Sterile No Growth.	Normal Delivery	5	5	24	59	No laceration of Genital Tract. Mild Cystitis. Paratyphoid B.
127.	12,400	Negative	Not taken	Normal Delivery	29	21	7	22	No laceration of Genital Tract. Breast Abscess.
128.	14,800	Negative	Not taken	Forceps Delivery.	20	5	5	10	Genital Tract not examined. Puerperal Insanity.
129.	9,800	Negative	B. Coli.	Forceps Delivery	15	9	5	27	Cervix, Vagina and Perineum = lacerated Nephritis. B. Coli Bacilluria Puerperal Insanity.
130.	12,000	Negative	Not taken	Forceps Delivery	7	6	6	52	Cervix, Vagina and Perineum = lacerated Scarlet Fever.



Table showing types of Organisms cultured from the  
uterus in 89 cases of Puerperal Infection.

<u>ORGANISMS</u>	<u>NUMBER OF CASES</u>
Haemolytic Streptococci (pure)	24
Haemolytic Streptococci and other organisms	12
Non-haemolytic Streptococci (pure)	19
Non- haemolytic Streptococci and other organisms	6
B. Coli (pure)	2
B. Coli and other organisms.	7
Gonococci and other organisms	2
Staphylococcus Aureus (pure)	1
Staphylococcus Albus (pure)	1
Enterococci (pure)	1
Unidentified Gram Positive Bacilli (pure)	2
Unclassified Gram Positive Cocci (pure)	1
Other Organisms (mixed)	4
Sterile	5
Contaminated	2
TOTAL	<u>89</u>

In two cases the uterine culture was accidentally contaminated, accordingly I have based my following figures on a table of 87 uterine cultures. Of 87 Uterine cultures, streptococci were obtained

in 61 cases (70.1%) either in pure culture or in association with other organisms.

Of these 61 cases, haemolytic streptococci were obtained in 36, (59.0%) and non-haemolytic streptococci in 25 instances (40.9%)

B. Coli was present in 9 cases (10.3%)

Gonococci were present in 2 cases (2.3%)

Staphylococcus Albus was found in several cases. It was invariably found mixed with other organisms (In only one case was it present in pure culture). I cannot regard it as pathogenic.

Other organisms were present in 10 cases (11.5%)

Five cultures were sterile (5.7%). (Cases 33, 38, 45, 98 and 126)

27 of my later cases in which I classified the streptococci according to Holman,<sup>41</sup> the types were as follows:-

UTERINE CULTURENUMBER OF CASES

	(Streptococcus pyogenes (pure)	11
H	(Streptococcus Anginosus (pure)	1
A	(Streptococcus pyogenes	
E	(with Staphylococcus albus)	1
O	(Streptococcus pyogenes	
L	(with enterococci)	1
Y	(Streptococcus haemolyticus III	
T	(with enterococci)	1
I		
C		
Non-	(Streptococcus faecalis (pure)	7
H	(Streptococcus salivarius (pure)	2
A	(Streptococcus ignavus (pure)	1
E	(Streptococcus salivarius	
M	(with diphtheroids)	1
O	(Streptococcus non-haemolyticus I	
L	(with B. Coli)	1
Y		
T		
I		
C		
	TOTAL	<u>27</u>

Of 27 streptococci so classified :-

<u>UTERINE CULTURE</u>	<u>NUMBER OF CASES</u>	
Streptococcus pyogenes	13	H A E M O L Y T I C
Streptococcus anginosus	1	
Streptococcus haemolyticus III	<u>1</u>	
TOTAL	<u>15</u>	
Streptococcus faecalis	7	non- H A E M O L Y T I C
Streptococcus salivarius	3	
Streptococcus ignavus	1	
Streptococcus non-haemolyticus I	<u>1</u>	
TOTAL	<u>12</u>	

Out of the 11 cases giving a pure growth of Streptococcus pyogenes 8 of them came under the category of General Infections of the Blood Stream.

Table showing the organisms found in the five categories of Puerperal Infection.

Uterine Cultures taken from 89 cases (less 2 contaminated) = 87.

	Haemolytic Streptococci	Non-Haemolytic Streptococci	B. Coli	Gonococci	Other Organisms	Sterile Cultures	Contaminated Cultures	Total
Local Uterine								
Infect- ion	21	19	7	2	8	3	(2) = 60	62-2
Proport- ion	35%	31.7%	11.7%	3.3%	13.3%	5%		
Pelvic Inflama- tion	3	3	-	-	2	-	-	8
Proport- ion	37.5%	37.5%			25%			
General Peritoni- tis	1	1	-	-	-	1	-	3
Proport- ion	33.3%	33.3%				33.3%		
General Infect- ion of the Blood Stream	11 (pure)	2 (pure)	1	-	-	-	-	14
Proport- ion	78.5%	14.3%	7.1%					



Table showing the organisms found in the five categories of Puerperal Infection.

Uterine Cultures taken from 89 cases (less 2 contaminated) = 87.

	Haemolytic Streptococci	Non-Haemolytic Streptococci	B. Coli	Gonococci	Other Organisms	Sterile Cultures	Contaminated Cultures	Total
Miscellaneous Group	-	-	1	-	-	1	-	2
Proportion			50%			50%		87

The above table illustrates the predominance of streptococci, especially haemolytic streptococci in the severe and fatal forms of my cases (i.e. General Infections of the Blood Stream).

I wish also to draw attention to the complete absence of the less virulent organisms which are apparently closely associated with the much milder forms of the disease.

## LOCHIA EXAMINATION IN PUERPERAL INFECTION.

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74

Schottmüller examined the uterine secretion of 50 cases of Puerperal Fever. He found the haemolytic streptococcus and an anaerobic streptococcus equally frequently - 15 cases each. In other cases he found B. Coli, Staphylococci, Non-haemolytic Streptococci, Gonococci and Diphtheroid Bacilli.

Extrauterine complications were present in 24 of the 50 cases and in all of these with two exceptions, streptococci of one or other or all varieties were found in the cervix in pure culture.

He compared these cases with a series of 35 patients who developed slight fever in the puerperium after normal labour. The organisms found were the same in these as in the severe cases.

Friedrich<sup>29</sup> in his investigations of Puerperal Fever and abortion cases found as the chief organisms - Streptococci, Staphylococci, Gram Positive Bacilli and B.Coli. These organisms were present in mixed culture even in fatal cases. He found B.Coli in a very large proportion of his 27 cases (44%).

Fromme<sup>30</sup> examined the lochia of 14 cases of puerperal fever and found haemolytic streptococci in the /

the uterus of all of them on the first or second day. In 29 "sapraemic" cases, he cultivated saprophytes from 27.

Fitzgibbon and Biggar<sup>27</sup> in a study of 57 cases of acute Puerperal Fever found that the infecting organisms were streptococci (Haemolytic 32, Non-Haemolytic 8, Anaerobic 1, Streptococci not classified 6) in 47 cases (82.4%). Their deaths numbered 29 (51%). Streptococci were the infecting organisms in 20 fatal cases (68.9%).

Whitridge Williams at the fifth British Congress of Obstetrics and Gynaecology stated that in 226 cases out of 436 cases of raised temperature in which the possibility of intrauterine infection had to be considered, the *Streptococcus haemolyticus* was found in 32, the non-haemolytic variety in 34.

Harris and Howard Brown<sup>36</sup> made a bacteriological study of lochia of patients with rises in temperature to 101°F. or higher on two successive days during the first ten days of the puerperium, as well as in all cases of incomplete abortion and intrapartum infection requiring operative intervention.

Samples of lochia were taken from 168 patients and subjected to bacteriological study. The results of these cultures were as follows:-

Organisms /

<u>Organisms.</u>	<u>Number of Cases</u>
Streptococci (pure) .....	19
Streptococci and other organisms .....	94
Diphtheroids (pure) .....	14
Diphtheroids and other organisms .....	14
Colon Bacilli and other organisms .....	8
Saprophytes .....	2
Gonococci (pure) .....	1
Sterile .....	16
<u>TOTAL</u>	<u>168</u>

Of 168 uterine cultures, 113 or 67% were streptococci either in pure culture or in association with other organisms. Of the 87 uterine cultures I examined I found streptococci in 61 (70.1%).

Harris and Howard Brown also offer evidence which seems to show that Puerperal Infection due to aerobic, beta-haemolytic streptococci is almost invariably exogenous in character, and that Puerperal Infection due to gamma, non-haemolytic streptococci is probably endogenous in origin in many cases.

They found aerobic and anaerobic streptococci with approximately equal frequency and accordingly emphasise the necessity of anaerobic methods in suspected cases of streptococcic puerperal infection.

Almost /

Almost one half of the aerobic streptococci were of the beta-haemolytic variety and of these the majority belonged to the *Streptococcus Pyogenes* group.

Armstrong and Burt-White<sup>15</sup> reported on the bacterial flora of the cavity of the uterus after delivery in a consecutive series of 41 cases of puerperal pyrexia as defined by the Ministry, selected from 460 women delivered at the City of London Maternity Hospital.

The Streptococci they isolated were classified as follows:-

*Streptococcus cervicis uteri* .... 4 examples.

*Streptococcus salivaris* ..... 1 example.

*Streptococcus faecalis* ..... 9 examples.

*Streptococcus pyogenes* ..... 8 examples.

*Streptococcus pyogenes* was present therefore in 8 only out of 34 cases of puerperal pyrexia of genital origin, to which may be added a ninth case with *Streptococcus pyogenes* abscess of the breast.

They classified their 41 cases from a clinical standpoint as (a) Minor, (b) Major, (c) Serious.

(a) Minor - The majority, 35 cases were mild.

(b) Major - Three Cases; *Streptococcus Pyogenes* was obtained in mixed culture from the cervixes of two moderately severe cases, and

a /

a third presented the clinical picture of marked and rather prolonged Toxaemia, although her temperature did not exceed 102°F. A pure culture of Streptococcus Pyogenes was obtained from the cervix of this patient.

(c) Serious - Three women were seriously ill; from their cervices respectively B.Coli, Streptococcus faecalis and Streptococcus pyogenes were recovered in pure culture.

Armstrong and Burt-White in the same paper reported on the bacterial flora of the cavity of the uterus after delivery in a series of 20 women, all of whom suffered from the severest clinical form of puerperal sepsis. In 19 out of 20 such cases a pure growth of Streptococcus pyogenes was obtained by swabbing the cervix.

In my own series of septicaemic cases my findings were much the same. In 11 out of 14 such cases a pure growth of haemolytic streptococci was obtained. Eight of the cases were examined as to the exact variety of streptococcus, all were due to Streptococcus Pyogenes.

Kinloch, Smith and Stephen<sup>44</sup> in their report on Maternal Mortality investigated a series of 88 successive cases of puerperal fever. Uterine cultures from 56 patients showed the following:-

Number /



Number of Cases.

Streptococcus haemolyticus alone .....	36
Streptococcus haemolyticus and Staphylococci.	6
Streptococcus haemolyticus, Staphylococci and B. Coli .....	2
Streptococcus haemolyticus and B. Coli .....	5
B. Coli only .....	1
B. Coli and Staphylococci .....	3
Staphylococci and Streptococcus viridans ....	1
B. Alkalescens .....	1
Gonococci .....	1
Total	<u>56</u>

They found the Streptococcus haemolyticus in the uterine secretions in pure culture in 36 cases and along with other organisms in 13 cases and was thus obtained from a total of 49 cases out of 56 investigated or 87.5% of cases.

Hingston, <sup>39</sup>Mudaliar and <sup>84</sup>Theodore in an analysis of results of bacteriological examination of uterine and vaginal swabs in cases of puerperal sepsis found the streptococcal incidence 64.2%. (In 120 cases 77 gave streptococci.)

They found a relative higher proportion of streptococcal findings in relation to the case. Their cases giving streptococci when subdivided:-

	<u>Mild.</u>	<u>Severe.</u>	<u>Fatal</u>
Number of Cases .....	67	36	17
Number of Cases associated with Streptococci .....	40	24	13
Proportion	59.7%	66.6%	76.4%
Their /			

Their total of 77 positive streptococcal findings when further subdivided into the haemolytic and non-haemolytic varieties showed:-

	<u>Mild.</u>	<u>Severe.</u>	<u>Fatal.</u>	<u>Total.</u>
Haemolytic variety .....	36	22	9	67
Non-haemolytic variety ..	4	2	4	10

In their series they had nine cases of Septicæmia as follows:-

	<u>Severe.</u>	<u>Fatal.</u>	<u>Total</u>
Streptococci .....	4	2	6
B. Coli .....	2	1	3

Colebrook in a letter to the British Medical Journal/January 5th 1929 p.41 reports that out of 1,053 women delivered at Queen Charlotte's Hospital there were 85 "morbid" and "clinically septic" cases of all degrees.

These cases were bacteriologically investigated - by culture from the interior of the uterus, by examination and cultivation of the urine, and, where there was high fever, from the blood also.

Of these 85 cases only 6 yielded a culture of *Streptococcus pyogenes*, i.e. 7 per cent. In the remainder the predominant organisms recovered from cultures were diphtheroid bacilli, *B. Coli*, staphylococci, non-haemolytic streptococci and various unidentified gram - negative cocci and bacilli.

White /

White<sup>95</sup> in Melbourne, out of a series of 25 cases of so-called "saproemia" bacteriologically examined, reported only one infection due to *Streptococcus pyogenes*.

<sup>21</sup>  
Colebrook and Hare in a report on the frequency of *Streptococcus pyogenes* infection in Puerperal Fever, state that for a period of nine months practically every case at Queen Charlotte's Hospital which developed a temperature of 100°F. or more at any time after the first fifteen hours of the puerperium has been investigated bacteriologically, by culture from the cervix uteri, and in some cases also from the blood and urine.

Their total figures were as follows:-

Deliveries .....	1626
Febrile (all grades except those limited to the fifteen hours following labour) ..	134.
Infections by <i>Streptococcus pyogenes</i> .....	10.

These observers thus state that infection with *Streptococcus pyogenes* is a comparatively infrequent cause of the minor febrile disturbances of the puerperium. More commonly these were associated with infection by other organisms (*B. Coli*, diphtheroid bacilli, non-haemolytic streptococci and various unclassified gram-negative organisms). My own findings agree very much with these observations of Colebrook and Hare.

Colebrook /

Colebrook and Hare are also of the opinion that the presence of haemolytic streptococci in a culture from the uterus, especially if it is an abundant nearly pure growth, should be looked upon as a potentially serious matter, but does not necessarily justify a grave prognosis.

Bryce<sup>12</sup> reported streptococci as being the most frequent organisms cultured from the uterus in fifty cases characterized by fever following child-birth or abortion.

She found streptococci in eighteen cases (36%). Five of the six haemolytic strains occurred in pure culture, and four of them were associated with severe illness. One non-haemolytic strain was found in almost pure culture in the uterus in a fatal case of pelvic peritonitis, but apart from this non-haemolytic strains even in pure culture were associated with much milder clinical disturbances than haemolytic ones.

She also found the *Staphylococcus Albus* in association with other organisms. The *Staphylococcus Aureus* was found twice in mixed culture in the cervix and once in the uterus, in the latter *Streptococcus faecalis* and gonococci were also present. She found the gonococcus in 8% of cases. It is interesting to note /

note that Bryce found the gonococcus only in the uterus. Gonococci were absent from the cervix, a site usually chosen to reveal them in diagnostic investigations.

Gram-negative bacilli were present in twenty-one cultures from the cervix and in nine from the uterus. Five cervical and two uterine strains which were more fully investigated, were identified as *Bacillus coli*, but it is probable Bryce states from cultural and morphological features that most of the others were also coliform organisms.

Diphtheroids and other Gram-positive bacilli were fairly common both in the cervix and in the uterus. They occurred chiefly in mixed cultures in conditions which were clinically only sapraemic.

*Bacillus welchii* was found once in pure culture in the uterus in a case of abortion in which there was only a short period of fever. Bryce also found unidentified anaerobic bacilli occasionally in grossly mixed cultures from cases of abortion. She states these organisms did not appear to possess individual significance.

Bryce in her paper points out that the presence in pure culture of a relatively fastidious organism such as the *Streptococcus pyogenes* probably indicates an accession of invasive power, which is associated with /

with virulence for the host, and suggests that the organism in this condition also acquires the power of dominating in culture vigorous strains which would usually outgrow it. A precisely similar phenomenon is familiar in streptococcal follicular tonsillitis. An alternative but somewhat more abstruse explanation is based on immunological principles. It is thought that a specific infection primarily stimulates the non-specific protective mechanism, and as a result the normal and relatively harmless bacterial population is eliminated by the "first-line" defensive powers of the host. A virulent infection resists this non-specific defence and continues to thrive in pure culture until such time as it is subjected to a more slowly acquired specific immunity; at this stage the normal saprophytic population reappears.

Conversely, as I found in many of my cases of Local Uterine Infections, the occurrence of haemolytic streptococci in mixed culture is indicative of low invasive power against a resistant host and is usually associated with milder clinical disturbances.

In 1910, in his first paper, Schottmüller<sup>78</sup> reported a total of twenty-five cases, with a mortality of thirteen, or fifty per cent. Seventeen cases of Puerperal Infection, with seven deaths, or forty one per cent.

In /



In cases of puerperal thrombophlebitis due to anaerobic streptococci, he reported a mortality of seventy eight per cent. He indicates that the anaerobic streptococcus is a virulent pathogenic organism and he does not look upon it as a parasite, because once having invaded the thrombi or blood stream it has pathogenic properties. His description of the organism is as follows: On artificial culture media it forms long and short chains. The individual organisms are usually not round but flattened and lie opposite one another (diplococci); Eight, ten or more diplococci form at times a tortuous chain. The single cells do not always have the above described forms but at times on cultures they become rod-shaped, and all different shapes, so that one is forced to believe that the culture is contaminated. They stain readily and are gram-positive. The organism does not grow in the presence of oxygen, but on the contrary it is so sensitive that it grows only after expulsion of all the oxygen. For this reason only those methods can be used in which all the oxygen is removed and kept away. These requirements are best met in agar. The usual mixture of a stab culture to which a reducing substance has been added is the best media to grow this streptococcus. Schottmüller has named this organism the *Streptococcus putridus*; it causes a /

a putrid odour, especially in blood bouillon cultures. His experience shows that the *Streptococcus putridus* infections most frequently follow abortions. He thus thinks that in abortions the organisms are introduced into the uterus either with the hands or with instruments.

He states that the normal vagina does harbour anaerobic streptococci and therefore auto-infections can occur.

Schottmüller states that in abortions only three per cent die, which indicates that the uterus in early abortion is not so easily infected as at term, as the thrombosed vessels in the endometrium are much more numerous and larger.

In 1921, an Article appeared from the Schottmüller clinic by Bingold,<sup>9</sup> in which the pathogenicity of the *Streptococcus putridus* was further emphasised.

<sup>75</sup>  
Schwarz and Dieckmann in a paper on 'Puerperal Infection due to Anaerobic Streptococci' read at the thirty-ninth Annual meeting of the American Association of Obstetricians, Gynaecologists, and Abdominal Surgeons, held in Chicago, Ill. September 20-22, 1926, state that they are of the opinion that anaerobic streptococci play a considerable part in puerperal infection.

It /

It is noted from studying their tables 1 and 2 (which outline the bacteriology of their cases) that anaerobic organisms evidently play a considerable part in the cases of puerperal infection which they have studied. They state that the anaerobic streptococci which they have studied resemble the so-called *Streptococcus putridus* of Schottmüller, and usually give rise to rather virulent infections, particularly if a thrombophlebitis develops with a resulting pyaemia.

<sup>34</sup>  
Harris and Howard Brown have described a new organism which they think may be a factor in the causation of puerperal infection. From the uteri of women presenting puerperal infection they have isolated strains of an organism (*Actinomyces pseudo-necrophorus*) which closely resembles *Actinomyces necrophorus*. It differs from the latter in being non-haemolytic when grown in the blood agar plate and in failing to ferment lactose. The two organisms do not cross-agglutinate in immune sera. Harris and Howard Brown state they have encountered this organism in six patients.

### Serological Classification of Streptococci.

<sup>80. 81</sup>  
Smith has shown that the classification of haemolytic streptococci into specific types associated with Scarlet Fever, Erysipelas and Puerperal Fever, could not be confirmed.

It was found that strains of streptococci obtained by blood culture from cases of Puerperal Septicaemia had an antigenic structure entirely conforming to that found in the predominating scarlatinal types.

McLachlan and Mackie<sup>59</sup> made a serological study of a considerable number of strains of haemolytic streptococci from Scarlatina and other sources which had been carefully investigated as regards their toxic<sup>58</sup> genic properties. They stated that while certain "groups" can be recognised among the scarlatina streptococci corresponding to those originally described by Smith and Griffith<sup>32. 33</sup> in which can be placed also various non-scarlatina strains, they did not find it possible to classify these organisms into well-defined serological types. They further stated that no clear demarcation has been elicited between haemolytic streptococci from scarlatina and from other conditions, though strains presenting particular serological characteristics are more prevalent in scarlatina. Their study also illustrated the complex antigenic constitution of these organisms.

Results of Examination of the Blood of 129 cases of  
Puerperal Infection.

The actual number of blood cultures examined was 129. No report on the blood culture of case 80 being given.

In 17 cases streptococci were found in the blood. In 16 cases the organism found was the streptococcus haemolyticus, in 1 case the organism was a non-haemolytic streptococcus.

In 1 case B.Coli was found in the blood, and in another case Staphylococcus aureus was found in the blood.

In 110 cases the blood was sterile. I might be justified in some of these cases, in saying that streptococci were not found rather than call the blood culture sterile, as in some of the cases with positive blood cultures streptococci were not always found on the first examination, but later.

Of the 17 cases in which streptococci were found 13 or 76.5% died. 4 or 23.5% recovered. The mortality was thus more than four times as great when streptococci were found in the blood as when they were not found.

The one case in which B.Coli was found in the blood recovered. The one case in which Staphylococcus aureus was found in the blood, died.



Results of the examination of the Blood Cultures  
and Uterine Cultures of the 26 cases of General  
Infections of the Blood Stream.

In this group there were 19 deaths.

17 cases had streptococci in the blood - in 16 cases haemolytic streptococci, in 1 case non-haemolytic streptococci.

13 cases with haemolytic streptococci in the blood stream died, 3 recovered.

The one case with non-haemolytic streptococci in the blood recovered.

One case with Staphylococcus aureus in the blood died.

One case with B.Coli in the blood recovered.

In 7 cases the blood was sterile - 5 of these cases died, 2 recovered, in 4 out of the 7 cases uterine cultures were taken. 3 cases gave a pure growth of haemolytic streptococci. One case gave a pure growth of non-haemolytic streptococci.

The mortality of these septicaemic cases was 73%.

The mortality of cases in which streptococci were found in the blood was 76.5%.

Uterine Cultures were taken from 14 cases of septicaemia. 11 cases gave a pure growth of haemolytic streptococci. In 8 of these cases in which the uterine culture was further examined as to the actual causal streptococcus, the Streptococcus

pyogenes was found in every case. (100%)

2 cases gave a pure culture of non-haemolytic streptococci, one being the Streptococcus faecalis.

1 case gave a mixed growth of B.Coli and Streptococcus non-haemolyticus I.

### Blood Examination in Puerperal Infection

If organisms are found circulating in the blood stream, the patient has either a septicaemia or the organisms are being repeatedly derived from some source in connection with the blood stream. There are two chief such sources - the pelvic veins, including the veins of the uterine wall, and the heart valves.

A few hours after delivery the cavity of the uterus is no longer in direct communication with the circulation. Blood clot separates it from the blood stream and if the uterus is at rest and if there is no interference organisms can reach the blood stream only through such blood clots or the uterine muscle, and by causing a secondary phlebitis. Accordingly there is a chance of the infection settling down before this occurs.

In Puerperal Infection organisms are not always easy to find in the blood. Many cultures are negative, perhaps the blood may be actually sterile or it may be that even in septicaemic cases only a few organisms are present in the blood stream and these possibly in a devitalised state.

Fromme<sup>30</sup> examined 14 puerperal cases with high temperatures and streptococci in the lochia. In every case the blood culture was sterile. He

He advised that daily blood cultures should be done to recognise the stage when organisms for the first time reached the blood stream. In his 14 cases which cleared up he concluded endometritis was present.

Fromme<sup>30</sup> also gives an account of 10 cases where haemolytic streptococci were present in the blood and 9 of the cases died 5 of them had peritonitis in addition to septicaemia.

Only 3 of the 10 had a blood infection alone - these had streptococci in the blood and in the lochia and were cases of Streptococcal Endometritis which had advanced a stage further and become septicaemic

88.89.90.91

Warnekros has reported from time to time several cases of puerperal pyaemia carefully controlled by blood cultures. There were taken chiefly with a view to determining the most suitable time for operation by ligature of the infected veins.

He states that if the blood is taken during or immediately after a rigor in these cases it is always possible to recover organisms from it. Between rigors the blood is usually sterile in the more favourable cases. This is probably due to the ability of the blood to destroy the organisms by its bactericidal power. At operation however the cases of Warnekros were found to be examples of pure

thrombophlebitis without even any periphlebitis. The organisms found were usually Streptococci but in one case he found Gram-negative and Gram-positive bacilli in addition.

Other observers would like to rely as certainly on the examination of the blood. Werner and Zubrzycki<sup>94</sup> in 1914 examined 200 cases of Puerperal Fever. Blood cultures were taken from 61 of the worse of these, and they only obtained 9 positive results. The organisms found were haemolytic streptococci in 8 cases and an anaerobic streptococcus in the other. 3 of the 9 were fatal.

In 3 other fatal cases the blood cultures were negative. These observers conclude that the finding of organisms in the blood is of less value for prognostic purposes than the clinical appearance of the patient.

Lamers<sup>47</sup> examined 25 so-called Sepsaemic puerperal patients and even though the blood was taken for culture when the temperature was highest it was always sterile.

Friedrich<sup>29</sup> does not place much reliance on blood cultures. In his series of 27 cases he had 5 severe puerperal cases with streptococci in the lochia but nothing could be grown from the blood. In 4 other



cases (one of which was fatal) he obtained positive blood cultures. One of these was merely a temporary invasion of the blood stream by B. Coli. Of the other these, the fatal one had a streptococcal infection another had a Staphylococcus aureus pyaemia from a mastitis, and the last was a B. Coli infection following operative interference. In two fatal cases he found streptococci in the heart-blood poste-mortem.

The blood was constantly sterile in the rest of his cases. He therefore concluded that though organisms have appeared in the blood, cases can recover, severe and even fatal cases can have negative findings, but in the slighter cases blood cultures are always negative.

Schottmuller<sup>74</sup> found organisms in the blood in only 13 out of 50 severe febrile cases after full time labour. 8 of these B cases were fatal. Two of the non-fatal cases had B. Coli in the one instance, and B. Phlegmones Emphysematosae in the other, All the other cases had streptococci.

Brodhead<sup>11</sup> took cultures from the blood in 17 very severe cases, 11 of which were fatal. Of the 17, 10 were positive, 7 of the 10 patients died and 3 recovered. There were thus 4 fatal cases out of 11 in which the blood cultures were negative.

Lenhartz<sup>50</sup> believed that few patients recovered if streptococci were found in the blood. He had 20 positive blood cultures in his series of 60 fatal cases. Compared with this he had only 5 positives which recovered.

Felty and Keefer<sup>26</sup> have reported 6 cases of B. Coli blood infection, originating from the female genital tract. They state that when metastases do occur they are most frequent in the kidney.

Marquis<sup>57</sup> has published a series of cases where the organisms in the blood were other than streptococci. One case was a pure B. Coli infection, another due to a mixture of streptococci and B. Coli and a third which was fatal due to staphylococci and B. Coli. He had also two cases where the organisms grown from the blood were Staphylococcus aureus and one where Staphylococcus albus was found. These were not fatal.

Widal and Lemierre<sup>96</sup> have described a fatal case of B. Coli Septicaemia where that organism was found in the uterus, blood, and cerebro-spinal fluid.

Beck<sup>7</sup> reported an unusual case of Staphylococcus Albus septicaemia. Repeated cultures from the blood gave this organism. The organism was also present in the urine, sputum, and post-mortem in the lung abscesses and in the heart blood.

Foulerton and Bonney<sup>28</sup> reported a fatal case of

Pneumococcal "septicaemia" in the puerperium without lung changes.

15

Armstrong and Burt-White, reporting on their 20 cases of severe Puerperal Sepsis in 19 of which the cervical swab gave a pure growth of *Streptococcus pyogenes*, state that blood cultures were positive in 10 cases, not undertaken in 5, and negative in 5. They believed that the number of organisms present in the blood afforded a measure of the severity of the illness. They conclude that in severe puerperal sepsis *Streptococcus pyogenes* is almost universally present in pure culture cervix uteri and in the majority of blood cultures.

With this I quite agree, but would add that severe puerperal sepsis may also follow, although certainly much less commonly, infection with a pure culture of non-haemolytic streptococci, *B. Coli* or *Staphylococcus aureus*.

### PUERPERAL SEPTICAEMIA MORTALITY FIGURES.

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Statistics of the mortality from puerperal septicaemia are to be found in two reports, presented to the British Congress of Obstetrics and Gynaecology in 1925, respectively by a London Committee on the prognosis and treatment of puerperal sepsis and a Committee of the North of England Society for Obstetrics and Gynaecology on puerperal blood infections. Rules were made and observed by both committees by which cases should be judged suitable to be recorded as blood infections.

The London Committee studied 247 cases, amongst which the mortality was 36 per cent. Of these, 53 cases were definitely proven to have streptococci in the blood; the exact variety of streptococcus was not stated. The mortality in this group was 66 per cent.

The Northern Committee studied 154 cases; the mortality rate was 76 per cent. The blood was examined during life in 75 of these cases and streptococci grown in over 65 per cent; the mortality in this group was not stated. In 22 cases of which full particulars were available and were tabulated, 19 died, all with positive blood cultures; the three survivors showed negative blood cultures.

These /

These figures are much the same as my own findings. The mortality of my twenty six septicaemic cases was 73 per cent. The mortality of seventeen cases in which I found streptococci in the blood was 76.5 per cent.

44

Kinloch, Smith and Stephen in their report state that 29 cases out of 86 died, and in 28 cases it was proved that death was due to infection with *Streptococcus haemolyticus*, while in one case no bacteriological evidence of the infecting organism was obtained. In 28 cases from which *Streptococcus haemolyticus* was cultured from the blood during life only six recovered, whereas three cases in which the blood culture showed *Streptococcus viridans*, *B. Coli*, and *B. Alkalescens*, all recovered. In 69 cases, therefore, which were investigated fully, the *Streptococcus haemolyticus* was found in 61, or 88 per cent of cases.



CASES WHERE THE INFECTION OF THE GENITAL TRACT  
IS SECONDARY TO A BACTERAEMIA ORIGINATING IN  
SOME OTHER FOCUS.

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There have been cases recorded where an acute infection has taken place at a site other than the genital tract, organisms have reached the blood stream and caused abortion or premature labour. The organisms then settled secondarily in the genital tract and caused what appeared to be an ordinary Puerperal Infection.

72

Schmidt had two cases where the infection (streptococcal) probably originated from a tonsillar infection. In both cases the organisms settled in the uterus. From there in one case the streptococci spread by the uterine veins to the pelvic cellular tissue and the blood stream. In the other they spread along the surface of the tubes and thence to the peritoneum, causing death from peritonitis. There is no absolute evidence, however, that the organisms in these cases reached the uterus by the blood stream, and not by carelessness in nursing.

71

Schäfer reports a case where the primary focus was in the Frontal Sinus, which had been infected for three weeks before delivery. On the sixth day of the puerperium the patient had a rigor, the temperature rose /

rose and small Gram-negative bacilli were cultured from the blood. The patient died on the tenth day and post-mortem Gram-negative bacilli were found in the Frontal Sinus, spleen, peritoneum and uterus.

# THE RELATION OF PUERPERAL INFECTION TO THE METHOD OF DELIVERY.

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130 cases were examined altogether. 65 (50%) were Primiparae. 65 (50%) were Multiparae.

There were 78 cases of Local Uterine Infections. 43 were Primiparae, 35 were Multiparae.

There were 17 cases of Pelvic Inflammation. 9 were Primiparae, 8 were Multiparae.

There were 4 cases of General Peritonitis. One was a Primipara. Three were Multiparae.

There were 26 cases of General Infections of the Blood Stream. Nine were Primiparae. Seventeen were Multiparae.

There were five cases in the Miscellaneous Group (mental disturbances, paratyphoid B, Scarlet Fever etc.). Three were Primiparae. Two were Multiparae.

The Genital Tract was not examined in 13 cases. Of 117 cases whose Genital Tracts were examined, 87 (74.4%) showed some degree of laceration or bruising.

The Methods of Delivery and complications were as follows:-

## Number of Cases.

Normal Delivery .....	68
Forceps Delivery .....	34
Version .....	2
Craniotomy .....	2
Breech .....	4



the particular organisms introduced, their number, virulence, and above all the general condition and resistance of the patient. If resistance is good then the invaders are repelled, and no spread or absorption of organisms occurs. If the patient's resistance on the other hand is poor then how easy for a virulent organism to gain the upper hand and invade the body tissues.

Let me draw two comparisons:-

Take the ordinary form of facial erysipelas - what is termed idiopathic, but is it? We rarely see any original wound where the streptococcus enters, yet severe facial inflammation with spread and absorption of organisms and their toxins may follow.

Again it is well known that a trivial pin prick of the finger which is often invisible, may lead to a severe and even fatal septicaemia.

Is it not possible that a somewhat similar state of affairs may exist in the genital tract of those cases where delivery has been perfectly normal and no apparent wound is visible ?

Duration /



Duration of life in 21 fatal cases after the onset  
of the disease.

7 patients, or 33.3 per cent, died in the first week.  
6 patients, or 28.6 per cent, died in the second week.  
1 patient, or 4.8 per cent, died in the third week.  
1 patient, or 4.8 per cent, died in the fourth week.  
1 patient, or 4.8 per cent, died in the fifth week.  
1 patient, or 4.8 per cent, died in the sixth week.  
2 patients, or 9.5 per cent, died in the seventh week.  
1 patient, or 4.8 per cent, died in the ninth week.  
1 patient, or 4.8 per cent, died in the eleventh week.

TABLE SHOWING DURATION OF FEVER IN HOSPITAL.

<u>Number of days fever.</u>	<u>Number of Cases.</u>	<u>Died.</u>
0	2	0
1	14	2
2	8	1
3	11	3
4	13	3
5	8	1
6	6	0
7	9	1
8	4	1
9	8	1
10	3	1
11	6	0
12	4	1
13	3	0
14	2	0
16	3	0
17	2	0
20	3	1
21	1	0
22	2	1
24	2	0
25	2	0
26	2	0
30	1	0
33	2	1
34	1	0
39	1	1
43	1	0
45	1	1
49	1	0
51	1	0
63	1	1
67	1	0
68	1	0
TOTAL -	<u>130</u>	<u>21</u>

TABLE INDICATING DAY OF DISEASE UPON WHICH CASES  
WERE NOTIFIED AND ADMITTED TO HOSPITAL.

<u>Day of Disease.</u>	<u>Number of Cases notified.</u>
1. ....	6
2. ....	19
3. ....	27
4. ....	20
5. ....	17
6. ....	7
7. ....	5
8. ....	9
9. ....	3
10. ....	2
11. ....	1
12. ....	1
14. ....	2
15. ....	1
18. ....	1
20. ....	1
21. ....	1
23. ....	1
24. ....	1
31. ....	1
35. ....	1
? .....	3
TOTAL - 130	

It will be noted that 78 cases, or 60 per cent, were not notified or sent into hospital until after the third day of onset of disease.

# RESULTS OF THE DICK TEST IN SIXTY-SEVEN CASES OF PUERPERAL INFECTION.

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Out of 130 cases I performed the Dick Test on 67 on their admission to hospital. I have described the technique above (page 103), Out of 67 cases tested, 3 were Dick positive and 64 were Dick negative. The Dick Positives were:-

Case 114. Dick Test performed on the third day of disease. Haemolytic Streptococci in uterine culture. Blood Culture negative. Case died - septicaemia.

Case 126. Dick Test performed on the fourth day of disease. Uterine Culture sterile. Blood Culture sterile. Case also suffered from Paratyphoid B. infection. Case recovered.

Case 41. Dick Test performed on the third day of disease. B.Coli and Staphylococcus albus in uterine culture. Blood Culture sterile. Case of local uterine infection - recovered.

The percentage of positive reactors in this series of cases was thus 4.5 per cent.

43

Joe performed the Dick Test on 103 practically consecutive cases of puerperal sepsis; 26 were positive and 77 negative to a 1 in 1000 dilution. Out of these 103 cases he had taken 22 from which he had isolated the haemolytic streptococcus; of this number 7 were Dick-positive and 15 Dick-negative.

Burt-White /

13

Burt-White carried out the Dick-Test on 100 pregnant women. Four intradermal injections, respectively one-fifth of a cubic centimetre of a dilution of 1 in 1,000, 1 in 3,000, and 1 in 6,000 of toxin with control, were made into the skin of the palmar surface of the forearms. Of these 100 women, 27 were toxin-sensitive, while 73 did not react to any dilution. Of 27 women who were Dick-positive, 8 experienced morbid puerperia, according to the British Medical Association standard. In only 2 cases were the cervixes swabbed, but each yielded a pure growth of *Streptococcus Pyogenes*. The remaining 19 who were Dick-positive passed through normal puerperia; 18 of these experienced normal labours, one was delivered by forceps.

Of the 73 women who were Dick-negative, two experienced morbid puerperia but in each case the constitutional disturbance was very slight, and in neither could *Streptococcus Pyogenes* be found in the cervix or blood. It is interesting to note that this series contained many abnormal cases in which sepsis was to be expected, yet none occurred.

These results indicate that women who react positively to intradermal inoculation of scarlatinal toxin are more liable to develop puerperal infection than non-reactors.



Sixty per cent of my cases were not sent into hospital until after the third day of onset of disease (See Table, page 93 ) and that may account for my low percentage (4.5) of Dick positive reactors. Joe does not state at what day of disease his cases were when he performed his Dick Tests.

I am inclined to believe that invasion by the *Streptococcus haemolyticus* in Puerperal Infection is not restricted to women who are Dick Test positive reactors.

45

Kunz and Nobel carried out the Dick Test on 117 women before labour, and 327 within 48 hours of delivery. Of these 444 women, 392 (88 per cent) gave negative reactions, and 52 (12 per cent) positive. In the Dick-negative group 32 (8 per cent), and in the Dick-positive group 12 (23 per cent), experienced febrile puerperia. The actual febrile standard was not defined, but cases showing a rise of temperature on one day only were excluded.

93

Weiss has published the results of 140 Dick tests carried out during pregnancy. Of the Dick-negative women 34 per cent, and of the Dick-positive 22 per cent were febrile during the puerperium. No definition of the febrile standard was given, Weiss was of the opinion that the results were of little value, because in many cases the skin reactions were inconstant.

Bacteriological examinations were not carried out to determine specifically the incidence of Streptococcus pyogenes infection in the investigations of Weiss, Kunz and Nobel, nor in that of Salmond and Turner.<sup>69</sup>

16

Burt-White, Colebrook, Morgan, Jervis and Harre have just published an interesting paper concerning the relation between cutaneous sensitiveness to scarlatinal toxin in pregnant women and the incidence of puerperal sepsis. They state that there is a suggestion that women with positive Dick reactions show an increased susceptibility to puerperal morbidity. In their series the morbidity in the Dick-positive was 41 per cent greater than in the Dick-negative group. The Dick-negative group of cases was three times as large as the Dick-positive, but the actual number of cases infected with Streptococcus pyogenes was greater in the positive group.

But as these workers themselves state no definite conclusions can be drawn from their series as it only includes a small number of cases of Streptococcus pyogenes infection.

The Dick Test was also applied to 38 women during the puerperium, - either shortly after delivery or within 24 to 36 hours after the onset of fever.

Eight out of the 38 cases gave a positive Dick reaction, /

reaction, and of these five were "morbid." Bacteriological investigation of these morbid cases showed only one infection (that is 1 in 5) by haemolytic streptococci. This was a case of mild uterine sepsis. Of the thirty cases with a negative Dick reaction, twenty were febrile and were investigated bacteriologically. Three cases (that is 1 in 6.6) showed infection by haemolytic streptococci - two being mild local infections, and the third a moderately severe case in which the fatal result was due chiefly to secondary haemorrhage.

#### The Wassermann Reaction in Puerperal Infection.

Results in my series of 130 cases:-

	<u>Number of Cases</u>
Negative .....	121
Anticomplementary Serum (probably negative).....	3
Positive (weak) .....	1
Not taken .....	<u>5</u>
<u>TOTAL</u>	<u>130</u>

Out of 125 cases in ~~which~~ the Wassermann Test was performed there was only one positive (Case 96 which died) (.8%).

49  
This seems a comparatively low figure but Lees states that Pregnancy and the Puerperium may influence the blood in Syphilis and give a negative Wassermann.

ANALYSIS OF THE BLOOD PICTURE IN 130 CASES  
OF PUERPERAL INFECTION.

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<u>Erythrocyte Count.</u>	<u>Number of Cases.</u>
Under 1,000,000 .....	- 1
From 1,000,000 (inclusive) to 2,000,000	- 7
From 2,000,000 (inclusive) to 3,000,000	- 27
From 3,000,000 (inclusive) to 4,000,000	- 64
From 4,000,000 (inclusive) to 4,500,000 (inclusive) .....	- 28
Above 4,500,000 .....	- <u>3</u>
TOTAL	- <u>130</u>

<u>Haemoglobin Percentage.</u>	<u>Number of Cases.</u>	<u>Proportion.</u>
90 per cent and under -	130	100%
80 per cent and under -	127	98%
70 per cent and under -	124	95.4%
60 per cent and under -	92	70.8%
50 per cent and under -	57	43.9%
40 per cent and under -	31	23.9%
30 per cent and under -	11	8.5%
20 per cent and under -	5	3.9%

35 cases or 26.9 per cent gave an Erythrocyte count of under 3,000,000.

99 cases or 76.2 per cent gave an Erythrocyte count of under 4,000,000.

<u>Leucocyte Count.</u>	<u>Number of Cases.</u>
Under 8,000 .....	5
From 8,000 (inclusive) to 12,000 .....	29
From 12,000 (inclusive) to 16,000 ....	44
From 16,000 (inclusive) to 20,000 ...	32
From 20,000 (inclusive) to 24,000 ...	11
Above 24,000 .....	9
TOTAL -	<u>130</u>

Analysis of the Leucocyte Count in my 26 cases of  
General Infection of the Blood Stream.

<u>Leucocyte Count.</u>	<u>Number of Cases.</u>	<u>Died.</u>	<u>Proportion.</u>
Under 8,000 .....	4	4	100%
From 8000 (inclusive) to 12,000..	3	3	100%
From 12,000 (inclusive) to 16,000..	9	9	100 %
From 16,000 (inclusive) to 20,000..	4	2	50%
From 20,000 (inclusive) to 24,000 .	2	1	50%
Above 24,000 .....	<u>4</u>	<u>0</u>	0%
TOTAL -	<u>26</u>	<u>19</u>	

In every case where there was a good leucocyto:  
sis, - it was polymorphonuclear in type.

It will be noted from the above table that  
every patient suffering from a general infection of the  
blood stream whose leucocytosis was under 16,000 died.

Furthermore it is apparent that when the resis:  
tance of the patient is strong, as evidenced by a well  
marked response on behalf of the leucocytes, then the  
prognosis is better. All my cases of general infections  
of /



of the blood stream whose blood showed a leucocytosis of over 24,000 recovered. There were four such cases (15.4 per cent).

ACCOUNT of 130 CASES of PUERPERAL INFECTION,  
including history, clinical findings,  
treatment and Progress of each case.

I have placed my 130 cases in five categories as follows:-

1. Local Uterine Infections - 78 cases.
2. Pelvic Inflammation - including- Pelvic Cellulitis)  
 Pelvic Peritonitis. ) 17 Cases.  
 Thrombophlebitis)  
 of Pelvic Veins)  
 Phlegmasia Alba)  
 Dolens. )
3. General Peritonitis - 4 cases.
4. General Infections of the Blood Stream - 26 Cases.
5. Miscellaneous Group including mental disturbances,  
 breast troubles, Scarlet Fever,  
 Paratyphoid B, and other conditions  
 consequent on, or complicating the  
 puerperal state - 5 Cases.

In the account of each case I have given the  
following information:-

Age of Patient. Whether Primipara or Multipara.  
 Previous Infectious Diseases.

History including the nature of the confinement with  
 after progress before admission to the City Hospital.  
 Hospital.

Day of puerperium and day of disease on admission to  
 hospital.

Clinical Notes - (Where any system has not been mentioned it may be assumed that there was nothing abnormal to be noted.)

Result of:-

Blood Culture

Wassermann Test

Examination of catheter specimen of urine - on the morning following admission.

Uterine Culture - (In a few cases no uterine culture was taken)

Complete Blood Picture - including erythrocyte count, haemoglobin percentage, Colour Index leucocyte and differential count.

Dick Test - when performed.

Treatment and Progress - all serum was given intramuscularly unless otherwise stated.

The Dick Test was carried out in the usual way. In most of the cases it was performed on the day of admission and the readings were made on the following morning.

I used Burroughs, Wellcome Dick Test and Control. .2 c.c. of 1 in 1000 dilution Dick Test Toxin was injected intracutaneously on the left forearm. The Control test was performed in the same manner on the right forearm, using the same amount of toxin which had been heated at 100° C. for one hour.

With /

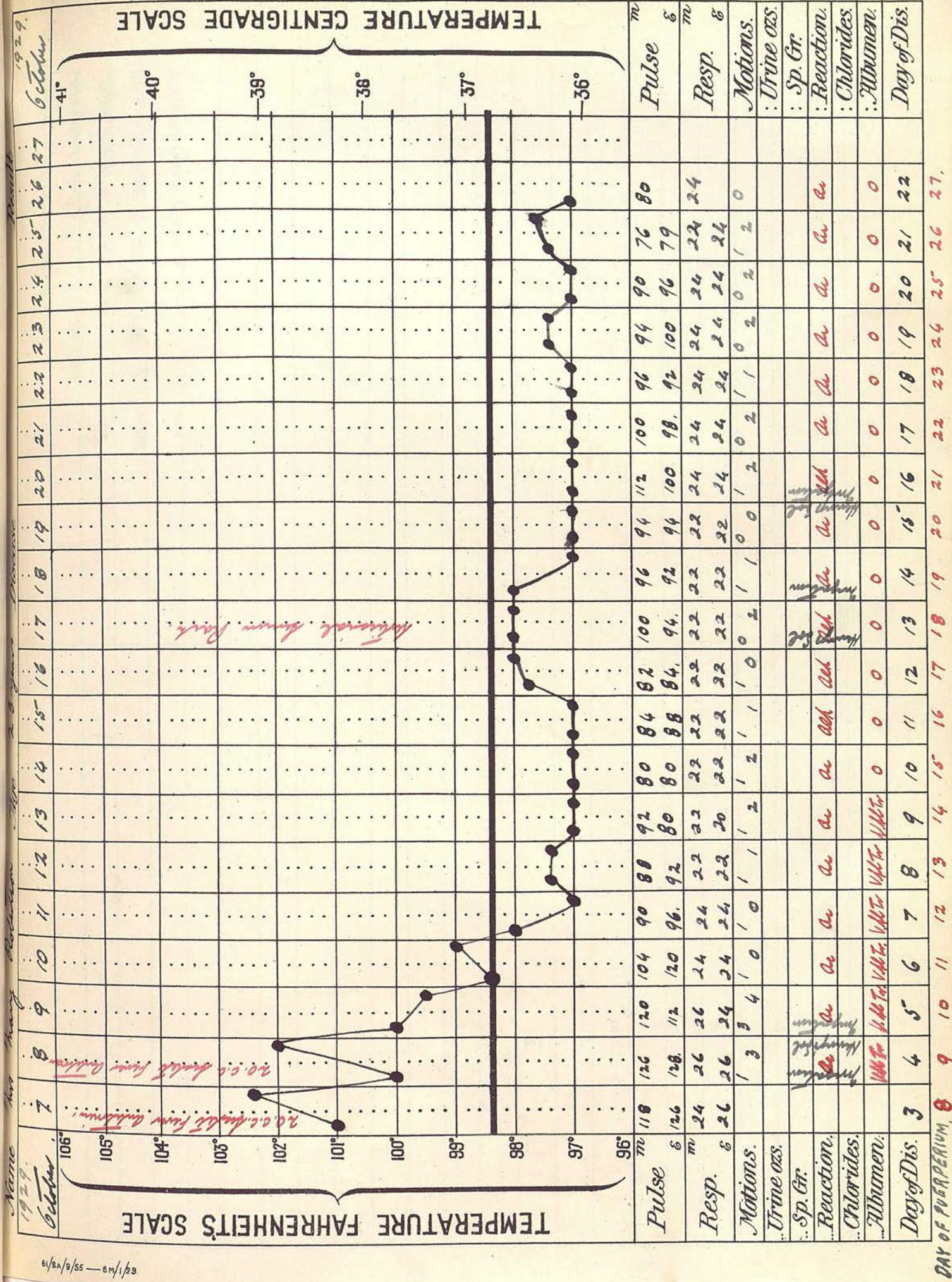
With each case in my 4th Group of cases -  
General Infections of the Blood Stream - I have included a complete copy of the temperature chart with pulse rates, etc.

I have also included temperature charts with many other cases in each category. As far as possible I have selected only what I consider typical charts for cases in each group.

Fever:- An axillary temperature of 99° or above was looked upon as fever.

LOCAL UTERINE INFECTIONS.









Case 1.

Mrs. M.R. Aet. 23. Primipara. Previous Infectious Diseases - Nil.

History: Had persistent vomiting during pregnancy.  
30/9/29. Forceps delivery, dead-born child with spina bifida. 5/10/29. Shivering, Headache and Abdominal pain. Temp. 101.4. Pulse 106. Offensive lochia.  
6/10/29. Rigor. Admitted to hospital on the 8th day of the puerperium and 3rd day of disease. Temp. 101. Pulse 118 (morning), Temp. 102.4. Pulse 126 (evening).

Clinical Notes. Abdomen : Fundus of uterus 2 inches above symphysis. Firm. No tenderness on palpation.  
Cervix - patulous. Marked laceration of anterior lip which is very oedematous. Discharge from the uterus has a foul smell but is moderate in amount.  
Vagina : a few small lacerations in both walls.  
Perineum : no laceration. No tenderness in Iliac fossae.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = No casts, no pus cells, no organisms.

Uterine Culture = Non-haemolytic streptococci (Streptococcus faecalis).

Blood Picture = Erythrocytes = 3,200,000.

Haemoglobin = 51%. Colour

Index = .8. Leucocytes =

14,600. Polymorphs = 71%.

Lymphocytes = 23%.

Eosinophils = 3%. Large

mononuclears = 1%. Basophils =  
2%.

Dick Test = Negative (3rd day of disease).

Treatment and Progress: 20 c.c. Scarlet Fever

Antitoxin on day after admission. Temp. 101 (morning)  
and 102 (evening). Pulse 126 - 128.

Glycerine Treatment. Femergin.

The temp. gradually came down to normal (4th day of  
admission) and pulse became quieter.

10 days after admission patient developed a general-  
ised urticarial serum rash.

Patient had a normal convalescence and made a good re-  
covery.

Number of days in hospital = 20.

Number of days duration of

fever in hospital = 4.

CASE 2.

Mrs. G. Aet. 37 years. Multipara. Previous Infectious Diseases - Measles, Scarlet Fever.

History:- 21/10/29. Labour commenced. 24/10/29. Admitted to Maternity Hospital as membranes ruptured on 22/10/29 and "no advance". Perforation and Delivery on 24/10/29. (Child very deformed - large hydrocephalic head). Liquor foul smelling. 50 cc. antistreptococcal serum given intramuscularly and 25 cc. antistreptococcal serum given intravenously. 25/10/29. 25 cc. antistreptococcal serum given intramuscularly. Since delivery a steady upward trend of the temperature and pulse. 29/10/29. Lochia offensive. Rigor in evening. Admitted to hospital on the sixth day of puerperium and sixth day of disease. Temp. 99. Pulse 120.

Clinical Notes:- Abdomen - Fundus of uterus midway between umbilicus and symphysis. Firm, not tender on pressure. No tenderness on palpitation over the Broad ligaments. Cervix - Inflamed, congested and oedematous. Small lacerations observed. Profuse discharge from uterus which is offensive. Vagina and perineum = lacerated.  
General condition appears good.  
Blood Culture - Negative.  
Wassermann - Negative.  
Catheter/



Catheter specimen of urine - No Casts, Pus cells +++.  
B.Coli +++.

Uterine Culture - Haemolytic Streptococci (Streptococcus Pyogenes).

Blood Picture:- Erythrocytes - 4,360,000. Haemoglobin-45%. Colour Index - .5 Leucocytes - 16,000. Polymorphs - 80%. Lymphocytes - 12%. Large mononuclears - 8%.

Dick Test - Negative (6th day of disease).

Treatment and Progress,- Glycerine Treatment. Femer: gin. Mist.Pot.Cit. et Sod.Bic. Later Acid Sodium phosphate and hexamine given. Quinine bihydrochlor gr.IX daily for 7 days (given in 4th and 5th weeks of admission).

After admission temperature rose steadily until it reached 103.6 on third day after admission - patient had a rigor. The following day patient had another rigor - temp. 100. For 14 days following admission temp. continued at 100 or just under 100 - pulse averaging 104.

The discharge from the uterus was still profuse and offensive. On the 14th day of admission two large pieces of putrid membrane were removed from the uterus under the glycerine treatment.

The temperature immediately fell to normal and remained so for four days, uterine discharge still offensive so glycerine treatment continued. On the 20th and 21st day of admission however the temperature rose /

rose to 100 and 101 respectively, the patient having a rigor on each day. For a further seven days temp. remittent and patient had rigors - pulse 96.

On 26th day of admission patient was started on a course of quinine bihydrochloride gr.IX once daily for a week.

On 29th day of admission temperature 97, pulse 88. Patient much improved. Discharge from uterus much clearer and less in amount. Patient proceeded to convalescence and made an excellent recovery. This case was a severe local uterine infection due to the Streptococcus Pyogenes. The Glycerine Treatment was carried out daily for 33 days.

Number of days in hospital - 44

Number of days duration of fever  
in hospital ..... - 20.

Case 3

Mrs. M.C. Aet. 29 years. Primipara. Previous infectious diseases - Nil.

History: Admitted to ante-natal ward of Maternity Hospital on 7/10/29 on account of albuminuria.

8/10/29 went into labour. 9/10/29 Forceps delivery on account of severe progressive oedema. Perineum torn. 10/10/29. Legs and lower abdomen more swollen. Since then oedema has gone down. 12/10/29 Mild seizure apparently eclamptic. Eliminatory treatment, patient much improved. 15/10/29 Temp. rose from 99 to 101, Pulse 120, lochia profuse and offensive. Uterus tender.

Admitted to Hospital on the 8th day of the puerperium and ? 8th day of disease. Temp. 98, pulse 122.

Clinical Notes: Marked swelling and oedema of feet and legs. Abdomen - Fundus of uterus about midway between symphysis and umbilicus, tender on pressure. Tenderness on palpation over the site of the appendages. Cervix - swollen and oedematous, slight laceration of anterior lip. Profuse mucoid discharge from uterus. Vagina - walls lacerated. Perineum - badly torn. Tear extends right up to the anal margin. Left labia very oedematous.

Blood Culture = Negative.

Wassermann = slightly anticomplimentary serum.

Catheter specimen of Urine = hyaline

casts, numerous pus cells and

B. coli. Gram positive cocci.

Uterine Culture = Haemolytic streptococci  
(streptococcus pyogenes).

Blood Picture = Erythrocytes = 3,600,000.

Haemoglobin = 52%. Colour Index =  
.7.

Leucocytes = 29,200. Polymorphs = 82%.

Lymphocytes = 11%. Large

Mononuclears = 4%. Eosinophils =  
2%. Basophils = 1%.

Dick Test = Negative (8th day of disease).

Treatment and Progress: Glycerine Treatment.

Femergin. Caps caprokol 2 t.i.d.

On the day following admission temp. 103, pulse 120.

Temp. became normal 3 days after admission, pulse 100.

Blood pressure systolic 128, diastolic 105. Urea

concentration test - 3 - satisfactory. Temp. normal

for about 5 days, discharge from uterus much less and

inoffensive, lacerations healing. On 9th day of ad-

mission temp. rose to 102, pulse 128. For a further

4 days temp. kept swinging up to 100, pulse 100 to 110.

After this patient settled down and made a good recov-

ery, the local condition healing well.

Number of days in Hospital = 28.

Number of days duration of

fever in Hospital = 7.

Case 4

Mrs. B. aet 22 years. Multipara. Previous Infectious Diseases = Scarlet Fever.

History: 9/10/29. Normal Delivery. 12/10/29 Rigor. Temp. 102 - six hours later Temp. 106. Lochia offensive.

Admitted to hospital on the 4th day of the puerperium and 1st day of disease Temp. 103, Pulse 120.

Clinical Notes: Abdomen - Fundus of uterus palpable just below umbilicus. Tender. Tenderness on palpation in left iliac fossa. Cervix - lacerated. Lochia blood stained - no foul smelling discharge. States she has had Left ovarian trouble before pregnancy.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine - No cases, no pus cells, no organisms.

Uterine Culture = Haemolytic Streptococci (Streptococcus Anginosus).

Blood Picture = Erythrocytes = 4,200,000.

Haemoglobin = 70%. Colour

Index = .8. Leucocytes =

17,200. Polymorphs = 74%

Lymphocytes = 19%. Large mononuclears = 2%.

Eosinophils = 2%.

Basophils = 3%.

Dick Test = Negative (1st day of disease).

Treatment and Progress: 50 c.c. Antistreptococcal serum (puerperal) on day of admission. 50 c.c. anti-streptococcal serum (puerperal) on 3rd day of admission, along with 20 c.c. of Collosal Argentum (intravenously). Glycerine Treatment. Femergin. Temp. remitted 103 and 99 till 6th day of admission when it became normal. Pulse about 112. On 6th day of admission patient given another 20 c.c. of Collosol Argentum intravenously. Good recovery made.

Number of days in hospital = 22.

Number of days duration of  
fever in hospital = 5.



Case 5.

Mrs. C. Aet 35 years. Primipara. Previous infectious diseases - Measles.

History: 13/10/29 Persistent right occipito-posterior forceps delivery. Given 25 c.c. anti-streptococcal serum intravenously and 50 c.c. anti-streptococcal serum intramuscularly. 14/10/29 25 c.c. anti-streptococcal serum intramuscularly. 16/10/29 Rigor, temp. 104, pulse 126. 17/10/29 temp. 103, pulse 120. Lochia offensive. Following delivery there were cervical vaginal and perineal tears which were all sutured.

Admitted to Hospital on the 5th day of the puerperium and the 2nd day of disease. Temp. 99, pulse 110.

Clinical Notes: Abdomen - Fundus of uterus one inch below the umbilicus firm but tender on palpation. Tenderness on palpation over the right and left broad ligament. Cervix - Marked lacerations present, both lips swollen and oedematous. Thickish purulent yellow offensive discharge from uterus. Vagina - both walls lacerated. Perineum - badly torn, tear extends to quarter of an inch of the anal margin, wound inflamed and septic.

Blood Culture = Negative.

Wassermann = Negative.

Catheter Specimen of Urine = No casts,  
numerous pus cells and  
**B. coli.**

Uterine Culture = Non-haemolytic

streptococci (streptococcus  
salivarius). Few diphtheroids.

Blood Picture = Erythrocytes 3,200,000.

Haeoglobin = 48%. Colour

Index = .7.

Leucocytes = 13,400. Polymorphs 72%. Lym-

phocytes 20%. Large

Mononuclears 3%. Eosinophils

4%. Basophils 1%.

Dick Test = Negative (5th day of disease).

Treatment and Progress: 20 c.c. Scarlet fever  
antitoxin on day of admission.

Glycerine Treatment. Femergin. Mist Pot. Cit et  
Sod Bic.

Temp. intermittent (100 and 102 to 98) for about a  
week after admission. Pulse about 100. At end of  
a week patient improved, discharge still offensive  
but quantity much less. Glycerine treatment continued.  
Patient however made good progress and proceeded to a  
normal convalescence.

Number of days in hospital = 27.

Number of days duration of

fever in hospital = 8.

Case 6.

Mrs. P. Aet 30 years. Multipara. Previous infectious diseases = Nil.

History: 13/10/29 Normal delivery. 16/10/29 Temp. 100.6. 17/10/29 Offensive lochia. Elevated temp. and pulse since 16/10/29.

Admitted to Hospital on the 13th day of the puerperium and on the 10th day of disease. Temp. 101. pulse 112.

Clinical Notes: Abdomen - Fundus of uterus just above symphysis, no tenderness on palpation. No tenderness in the iliac fossae. Cervix - oedematous and red slight laceration, somewhat offensive blood stained mucoid discharge from uterus. Vagina and Perineum - normal, no tears. Patient has inflamed external haemorrhoids.

Blood Culture = Negative.

Wassermann = Negative.

Catheter Specimen of Urine = No cases,  
numerous pus cells and B.  
coli.

Uterine Culture = Non-haemolytic streptococci (streptococcus ignavus)

Blood Picture = Erythrocytes = 3,700,000.

Haemoglobin = 56%. Colour  
Index = .7.

Leucocytes = 17,400. Polymorphs 78%.

Lymphocytes 15%. Large

Mononuclears 2%. Eosinophils

4%. Basophils 1%.

Dick Test = Negative (10th day of disease).

Treatment and Progress: Glycerine Treatment. Femer-  
gin. Mist Pot Cit et Sod Bic. Temp. gradually  
dropped from 101 and became normal on the 6th day of  
admission. The pulse also dropped to under 100.  
Patient made a good recovery. The uterine condition  
and the pyelitis clearing up satisfactorily.

Number of days in hospital = 19.

Number of days duration of

fever in hospital = 5.

Case 7.

Mrs. I.D. Aet 21 years. Primipara. Previous infectious diseases - Measles.

History: 18/10/29. Breach presentation. Much manipulation. Perineum torn into the Rectum.

Admitted to Hospital on the 5th day of the puerperium and 5th day of disease. Temp. 102.4, pulse 120.

Clinical Notes: Patient very pale and anaemic.

Abdomen - Fundus of uterus firm, tender on palpation situated at level of umbilicus. No tenderness over the right and left broad ligaments. Cervix - Oedematous swollen and red, much lacerated. Offensive muco-purulent discharge which is blood stained issuing from os. Vagina - walls swollen and show some small laceration. Perineum - tear extending into rectum has been sutured, wound septic.

Blood Culture = Negative.

Wassermann = Negative.

Catheter Specimen of Urine = No casts,  
numerous pus cells and B.  
coli..

Uterine Culture = Non-haemolytic  
streptococci (streptococcus  
faecalis).

Blood Picture = Erythrocytes 3,000,000  
Haemoglobin = 48%. Colour  
Index = .8.

Leucocytes = 21,000. Polymorphs 74%.

Lymphocytes 16%. Large Mononuclears 4%

Eosinophils 4%. Basophils 2%.

Dick Test = Negative (5th day of disease).

Treatment and Progress: 20 c.c. Scarlet fever anti-toxin on day of admission.

Glycerine Treatment. Femergin. Mist Pot. Cit et Sod Bic. Sulfarsenol 6 cgms. daily for four days until temp. settled. Patient had a temp. with pulse over 100 until the fifth day of admission when temp. became sub-normal and pulse quietened down. Discharge from uterus cleared up and patient proceeded to a normal convalescence.

Number of days in hospital = 22.

Number of days duration of

fever in hospital = 4.



Case 8.

Mrs. J.C. Aet. 19 years. Primipara. Previous Infectious Diseases = Scarlet Fever.

History: 30/12/28 Normal Delivery. Perineum torn, two sutures inserted. 31/12/28. Pain in left side of abdomen. Temp. 104, Pulse 124. 3/1/29 Lochia offensive. Admitted to hospital on the 9th day of the Puerperium and on the 8th day of disease.

Clinical Notes: Patient looks well. No signs of anaemia. Temp. 100, Pulse 120. Abdomen: uterus well involuted, normal in size, no tenderness on palpation. No tenderness over sites of Right and Left Broad Ligaments. Perineum torn - the two sutures have cut through and wound is septic. Posterior Vaginal Wall lacerated. Cervix appears catarrhal - external os red and swollen. No lacerations observed.

Blood Culture = Negative.

Wassermann = Negative.

Catheter Specimen of Urine = No casts,

Pus Cells. Some Red

Blood Corpuscles.

Streptococci and

Staphylococci.

Uterine Culture = Not taken.

Blood Picture: = Erythrocytes =

4,300,000. Haemoglobin

=60%. Colour Index =

.7. Leucocytes = 12,000

Polymorphs = 76%. Lymphocytes =

17%. Large Mononuclears = 4%.

Eosinophils = .2%. Basophils = 1%

Treatment and Progress: 50 c.c. antistreptococcal Serum (Puerperal) given on admission (intramuscularly) Femergin MXV t.i.d. Glycerine Treatment for 5 days. Boric Acid Bladder irrigations. Pot. Cit. Pot Bic and tinct hyoscyamus mixture 4 hourly.

The Temperature settled the day following admission and remained normal, with the pulse steady at 80.

A week after admission - Acid Sod. Phosph. 3 ss. and hexamine gr.x. given t.i.d.

Number of days in hospital = 23

Number of days duration of

fever in hospital = 1.

Case 9

Mrs. J. Aet 33. Multipara. Previous Infectious Diseases = Scarlet Fever. Chicken-Pox.

History: 6/1/29. Normal Delivery. 11/1/29. Shivering and pain in right side of abdomen. Admitted to hospital on the 8th day of the Puerperium and 3rd day of disease. Temp. 102.4, Pulse 124.

Clinical Notes: Appears pale and anaemic.

Abdomen: Tenderness on palpation in both Iliac fossae. No swelling palpable. Uterus: Tenderness on palpation over its site. Very foul brownish discharge. Cervix: very swollen, oedematous and catarrhal. Two small tears in anterior lip - not extensive or deep.

Evidence of old **scarring**. Perineum and Vagina normal.

Blood Culture = Negative.

Wassermann = Negative.

Catheter Specimen of urine = No casts, no pus cells, no organisms.

Uterine Culture = Not taken.

Blood Picture = Erythrocytes = 2,700,000

Haemoglobin = 38%.

Colour Index = .7.

Leucocytes = 14,200.

Polymorphs = 84%.

Lymphocytes = 16%. Large

Mononuclears = 4%.

Eosinophils = 1%.

Treatment and Progress: 50 c.c. antistreptococcal serum (Puerperal) on day of admission. 50c.c. anti-

streptococcal serum (Puerperal) on day after admission.  
Glycerine Treatment. Femergin.

Temp. 101 and 102 till four days after admission when it fell to 99. The pulse also falling from 124 to 96. For another week the temperature continued at about 99 to 100. For a further 14 days the temp. remained at or about 101 or 103, the pulse being 108 to 120. A Catheter specimen of urine showed numerous pus cells and B. Coli. Patient was put on Mist Pot. Cit gr. XX and Pot Bic gr. XX 4 hr. with plenty of fluids. However for a further 3 weeks the patient ran a swinging temperature, 100 in the evenings and normal in the mornings. Apart from Diarrhoea no other symptoms, Heart and Lungs clear. Nothing to be made out in the abdomen. Vaginal examination revealed nothing abnormal except a slight degree of retroversion of the uterus. A blood count showed - leucocytes = 7,200. Erythrocytes = 3,060,000. Haemoglobin = 48%. Colour Index = .8. Blood Culture = Negative. Stools negative for Typhoid. Widal Reaction negative. Tubercular Enteritis suspected. This state of affairs went on for a further five weeks, the examination of stools and Widal Tests being repeated. A daily examination of the morning stool for 14 successive days was carried out but no Tubercle bacilli were found even by using an enrichment method. A Von Pirquet Test was positive and accordingly strengthened belief in Tuberculosis as the cause of the trouble. A course of stock mixed vaccine had no effect whatsoever, as also

had two calcium preparations. The Bacillus Coli pyelitis cleared up satisfactorily but after 77 days in hospital the patient was transferred to the Royal Infirmary as a ? case of Tubercular Enteritis for further investigation. The patient's puerperal condition however cleared up extremely well under Glycerine Treatment which was carried out for about 14 days following admission.

Number of days in hospital = 77.

Number of days duration of

fever in hospital = 68.

Case 10.

Mrs. F. Aet 19 years. Primipara. Previous Infectious Diseases - Nil.

History: 10/1/29. Forceps delivery. 11/1/29.

Temperature raised. Admitted to hospital on the 9th day of puerperium and 8th day of disease. Temp. 100  
Pulse 108.

Clinical Notes: Face: grey pallid colour. Pulse of poor volume. Abdomen: slight general tenderness - most marked low down in right iliac fossa - fundus uteri not palpable, but tenderness present over its site. Uterus: discharge foul and offensive - thick yellowish brown in colour. Posterior vaginal wall lacerated and perineum torn. Cervix: os swollen, oedematous and catarrhal - no lacerations noted.

Blood Culture = Negative.

Wassermann = Negative.

Catheter Specimen of Urine = No casts, no pus cells, no organisms.

Uterine Culture = Not taken.

Blood Picture = Erythrocytes = 2,480,000  
Haemoglobin = 16%. Colour Index = .3. Leucocytes = 14,100. Polymorphs = 66%. Lymphocytes = 31%. Large mononuclears = 2%. Eosinophils = 1%.

Treatment and Progress: 50 c.c. antistreptococcal serum (puerperal) on morning of admission.



50 c.c. antistreptococcal serum (puerperal) on evening of admission. Glycerine Treatment. Light Treatment. Two days later temperature came down to 99. Pulse 104-116. For a further eight days the temperature kept between 98.4 and 99. Pulse 100 to 90. Patient's general condition much improved. Local condition also healing well. Patient made a good recovery.

Number of days in hospital = 28.

Number of days duration of

fever in hospital = 10.

Case 11.

Mrs. M.S. Aet. 21 years. Primipara. Previous infectious Diseases = Nil.

History: 13/1/29. Normal Delivery. 18/1/29. Lochia offensive. Temp. 99.6. Admitted to hospital on the 7th day of puerperium and 2nd day of disease. Temp. 103. Pulse 120 to 124.

Clinical Notes: Abdomen: Slight tenderness low down in right iliac fossa and over site of uterus. Slight offensive yellow discharge from uterus. Two lateral tears running out from posterior vaginal wall. No perineal tear. Cervix: both lips show small lacerations, os swollen, red, catarrhal, and ulcerated. Lungs: some bronchitis present. Heart: faint systolic murmur propagated into the left axilla.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of Urine = No casts, no pus cells, no organisms.

Uterine Culture = Not taken.

Blood Picture = Erythrocytes = 3,010,000  
Haemoglobin = 57%. Colour  
Index = .9. Leucocytes =  
11,000. Polymorphs = 76%.  
Lymphocytes = 18%. Large  
mononuclears = 4%.  
Eosinophils = 2%.

Treatment and Progress: 50 c.c. antistreptococcal serum (puerpal) on admission.

Glycerine Treatment. Femergin. Expectorant mixture  
(Ammon Carb. and Vin Ipecac). Light Treatment.  
The temperature became normal three days after  
admission; pulse also down to 100. Convalescence  
normal.

Number of days in hospital = 20

Number of days duration of

fever in hospital = 3.

Case 12.

Mrs. S. Aet 32. Multipara. Previous Infectious Diseases = Nil.

History: 18/1/29. Oedema of ankles, headache, sickness - albuminuria. 19/1/29 Normal Delivery - duration of labour 10 hours. 25/1/29 - Rigor. Temp. 103 - scanty lochia - tenderness of uterus. Admitted to hospital on the 7th day of puerperium and 2nd day of disease. Temp. 102, Pulse 106.

Clinical Notes: Patient very pale and anaemic. Face grey in colour. Abdomen: fundus uteri palpable below umbilicus - tender on palpation. Tenderness in both iliac fossae. Vaginal walls lacerated. Perineum torn. Cervix: congested - big laceration on anterior lip. Pus and blood stained discharge from cervix.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = no casts,  
pus cells ++. B. Coli ++

Uterine Culture = Not taken.

Blood Picture = Erythrocytes = 3,230,000  
Haemoglobin = 60%. Colour  
Index = .9. Leucocytes =  
9,600. Polymorphs = 82%  
Lymphocytes = 16%. Large  
mononuclears = 1%.  
Eosinophils = 1%.

Treatment and Progress: 50 c.c. antistreptococcal serum (puerperal) on admission. 50 c.c. anti-

streptococcal serum (puerperal) on day after admission.

Three days after admission temp. 98.4, Pulse 88.

Five days after admission Temp. 104.4. Pulse 116 -

due to serum reaction. Two days after this Temp.

settled and patient had a normal convalescence.

Number of days in hospital = 25.

Number of days duration of

fever in hospital = 7.

Case 13.

Mrs. I.S. Aet 26 years. Primipara. Previous Infectious Diseases = Nil.

History: 18/1/29. Forceps delivery. 24/1/29. Sudden rise of temp. Pain in the right shoulder.

Admitted to hospital on the 10th day of the puerperium and 4th day of disease. Temp. 100.2. Pulse 94.

Clinical Notes: Face pale in colour. Fundus of uterus situated midway between umbilicus and symphysis. No tenderness over it. Vagina has a small laceration. Cervix: small laceration of anterior lip. Pus-like discharge from the uterus. Lungs: Broncho-vesicular breathing with some sibilant rhonchi.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of Urine = No casts,  
no pus cells, no  
organisms.

Uterine Culture = Not taken.

Blood Picture = Erythrocytes = 2,100,000.

Haemoglobin = 51%.

Colour Index = .8.

Leucocytes = 14,410.

Polymorphs = 84%.

Lymphocytes = 12%.

Large mononuclears = 2%

Eosinophils = 1%.

Basophils = 1%.



Treatment and Progress: Femergin. Glycerine Treatment. Light Treatment. On the day following admission Temp. 101. Pulse 100. Four days after admission temp. became normal and pulse quietened - steady at 80. Convalescence uninterrupted.

Number of days in hospital = 14

Number of days duration of

fever in hospital = 4.

Case 14

Mrs. M.W. Aet. 22. Multipara. Previous Infectious Diseases = Measles, Chicken-pox.

History: 21/1/29. Normal Delivery. 24/1/29. Temp. 102.8. Pulse 112. Since this date has had a swinging temperature rising to 103.6. Running eyes. Pains all over the body. Lochia slightly offensive. Admitted to hospital on the 7th day of the puerperium and 4th day of disease. Temp. 103. Pulse 120.

Clinical Notes: Patient very pale and emaciated.

Abdomen: Fundus uteri situated midway between the umbilicus and symphysis. Tenderness low down just over the brim of the pelvis on the left side. Cervix: laceration of posterior lip. Slight offensive discharge from the uterus.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of Urine = No casts, no pus cells, no organisms.

Uterine Culture = Not taken.

Blood Picture = Erythrocytes = 2,740,000.

Haemoglobin = 40%. Colour

Index = .8. Leucocytes =

15,600. Polymorphs = 87%.

Lymphocytes = 8%. Eosino-

phils = 3%. Large mononu-

clears = 1%. Basophils = 1%.

Treatment and Progress: 50 c.c. antistreptococcal serum (puerperal) on day following admission. Temp.

kept up varying between 100 and 103.6 with a pulse of 120 to 124 until 12 days after admission when the temperature came down to normal. Pulse however staying at 120. Patient had some generalised bronchitis, but no indication of pneumonia or apical mischief. Patient on Glycerine treatment - femergin - hot saline douches - Tinct Digitalis M. XV 4 hourly with Pot Iodide gr. V. The temperature kept flickering away between 101, 102 and 98.4 until the 22nd day of admission when it fell to normal and convalescence was normal thereafter.

Number of days in hospital = 38.

Number of days duration of

fever in hospital = 16.

Case 15.

Mrs. M.R. Aet 21 years. Primipara. Previous Infectious Diseases = Measles, whooping-cough, Chicken-pox.

History: 30/1/29 Normal Delivery. 30/1/29 Headache. Admitted to hospital on the 3rd day of the puerperium and 3rd day of disease. Temp. 99, Pulse 100.

Clinical Notes: Patient looks very well - feels well and has no complaints. Abdomen: Fundus of uterus half an inch below umbilicus, well contracted, no tenderness in any situation. Slight yellowish blood stained discharge from the uterus. Cervix: a small laceration present on both lips.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine - No casts,  
no pus cells, no organisms

Uterine Culture = Not taken.

Blood Picture = Erythrocytes = 3,540,000

Haemoglobin = 64%.

Colour Index = .9.

Leucocytes = 10,800.

Polymorphs = 76%.

Lymphocytes = 19%.

Eosinophils = 2%. Large mononuclears = 2%.

Basophils = 1%.

Treatment and Progress: Femergin - Glycerine Treatment. Temperature 99 for two days and then became

normal. Pulse good throughout the illness.

Number of days in hospital = 12.

Number of days duration of  
fever in hospital = 2.

Case 16.

Mrs. M. S. Aet 20 years. Multipara. Previous Infectious Diseases = Measles, Mumps, Scarlet Fever.

History: 26/1/29. Normal Delivery. 30/1/29. Temp. 104.2. Abdominal pain and tenderness on the left side. Admitted to hospital on the 10th day of the puerperium and 6th day of disease. Temp. 102.6. Pulse 120.

Clinical Notes: Patient appears pale and anaemic.

Abdomen: no tenderness in Iliac fossae. Fundus uteri below and to the right of the umbilicus, firm but tender on palpation. Cervix, Vagina and perineum appear normal.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = No cases,  
Pus Cells +++, B. Coli  
+++.

Uterine Culture = Not taken.

Blood Picture = Erythrocytes = 3,200,000  
Haemoglobin = 62%. Colour  
Index = .9. Leucocytes =  
16,600. Polymorphs = 77%  
Lymphocytes = 20%. Large  
Mononuclears = 3%.

Treatment and Progress: 50 c.c. antistreptococcal serum (puerperal) on admission. Glycerine Treatment. Femergin. Pot Cit gr. XX. Pot Bic gr. XX 4 hourly Water freely.

Temperature remained up at 102 to 103 for 6 days



following admission. Then it fell to normal, but pulse remained fast at 108-112. Temperature normal for the next 7 days, then it rose abruptly to 101. Then normal for the two following days. Then again it rose to 101 for two days. Pulse 120. About this time on the sixteenth day following admission patient developed a circinate serum rash with some arthritis. This was late for the appearance of a serum rash. The rash soon cleared up and the stiff joints recovered; patient had then a normal convalescence.

Number of days in hospital = 23.

Number of days duration of

fever in hospital = 9 (including  
2 days with  
serum rash).

Case 17.

Mrs. M.F. Aet 32 years. Multipara. Previous Infectious Diseases = Measles.

History: 2/2/29 Caesarean Section for Central Placenta Praevia. Patient has had a temp. of 100 since then. Pulse also rapid. Wound clean, but lochia offensive. Has had abdominal pain. Admitted to hospital on the 7th day of the puerperium and 7th day of disease. Temp. 100. Pulse 100.

Clinical Notes: Patient very pale and anaemic.

Abdomen:- No rigidity or tenderness. Wound clean. Cervix, Vagina and perineum show no inflammation or laceration. Heart: soft systolic murmur in mitral area. The murmur is propagated into the left axilla. No dilatation of the heart.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = no casts, no pus cells, no organisms.

Uterine Culture = not taken.

Blood Picture = Erythrocytes = 2,910,000  
Haemoglobin = 52%. Colour  
Index = .8. Leucocytes =  
8,000. Polymorphs = 69%  
Lymphocytes = 29%. Large  
mononuclears = 1%. Eosino-  
phils = 1%.

Treatment and Progress: 50 c.c. antistreptococcal serum (puerperal) on day of admission. Temperature

became normal the following day and convalescence was uninterrupted.

Femergin. Glycerine Treatment.

Number of days in hospital = 19.

Number of days duration of

fever in hospital = 1.

Case 18.

Mrs. R. Aet 22 years. Primipara. Previous Infectious Diseases = Nil.

History: 8/2/29. Normal Delivery. 13/2/29. Swinging temp. Lochia offensive and scanty.

Admitted to hospital on the 8th day of the puerperium and 3rd day of disease Temp. 101, Pulse 120.

Clinical Notes: Patient looks well. Face: good colour no pallor or signs of anaemia. Abdomen: nothing abnormal to note. No tenderness. Cervix: no lacerations present. Yellowish discharge from the uterus. Vagina and Perineum: no lacerations.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of Urine = no casts,

Pus cells +++ Streptococci  
and gram negative diplococci.

Uterine Culture = Not taken.

Blood Picture = Erythrocytes = 3,900,000

Haemoglobin = 55%. Colour

Index = .7. Leucocytes =

11,400. Polymorphs = 78%.

Lymphocytes = 19%. Large  
mononuclears = 2%.

Eosinophils = 1%.

Treatment and Progress: 50 c.c. antistreptococcal serum (puerperal) on day of admission. 50 c.c. antistreptococcal serum (puerperal) on day following admission when temp. 100, Pulse 116.

Femergin. Glycerine Treatment. Capricol and fluids.  
The temperature became normal 3 days after admission,  
and pulse was 98 to 100. Temp. 97 and pulse normal  
for rest of convalescence.

Number of days in hospital = 23.

Number of days duration of

fever in hospital = 3.

Case 19.

Mrs. B. Aet 23 years. Primipara. Previous Infectious Diseases unknown.

History: 18/2/29 Normal Delivery. Severe post partum haemorrhage. Patient collapsed. Uterus packed. From 18/2/29 to 21/2/29 = very poor and rapid pulse. 22/2/29 - Temp. 100. 23/2/29 - Temp. 101. 24/2/29 - Temp. 102.4. Pulse rate also much increased. No complaints by patient. Lochia creamy inoffensive, less in quantity than average. On 18/2/29 50 c.c. antistreptococcal serum given intra-muscularly. Has been on quinine intramuscularly.

Admitted on the 7th day of the puerperium and 3rd day of disease. Temp. 98, Pulse 120.

Clinical Notes: Patient appears comfortable but slightly anaemic. Abdomen: no rigidity or tenderness present. Fundus of uterus not palpated. Cervix: laceration of posterior lip on left side - thick pus-like discharge from cervical canal. Small perineal tear present.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of Urine = No casts, no pus cells, no organisms on admission.

Uterine Culture = Not taken.

Blood Picture = Erythrocytes = 3,530,000.

Haemoglobin = 70%. Colour Index = 1. Leucocytes =



12,200. Polymorphs = 77%.

Lymphocytes = 20%. Large

mononuclears = 2%. Eosino-

phils = 1%.

Treatment and Progress: 50c.c. antistreptococcal serum (puerperal) on day of admission.. Glycerine Treatment. Femergin.

Sulfarsenol 6 cgm. daily for 5 days. On the day after admission temp. 100 and pulse 112. Then on 2nd and 3rd days following admission temp. normal. On 4th day following admission temp. 100. Then temp. again normal for 3 further days but pulse fast at 120. On 8th day following admission temp. 101.8 and on 9th temp. 102. This temperature I think was due to a serum reaction although no rash or symptoms were present, or possibly to pyelitis which developed 6 days after admission (the urine showing no casts, but numerous pus cells and B. Coli).

Convalescence was normal thereafter.

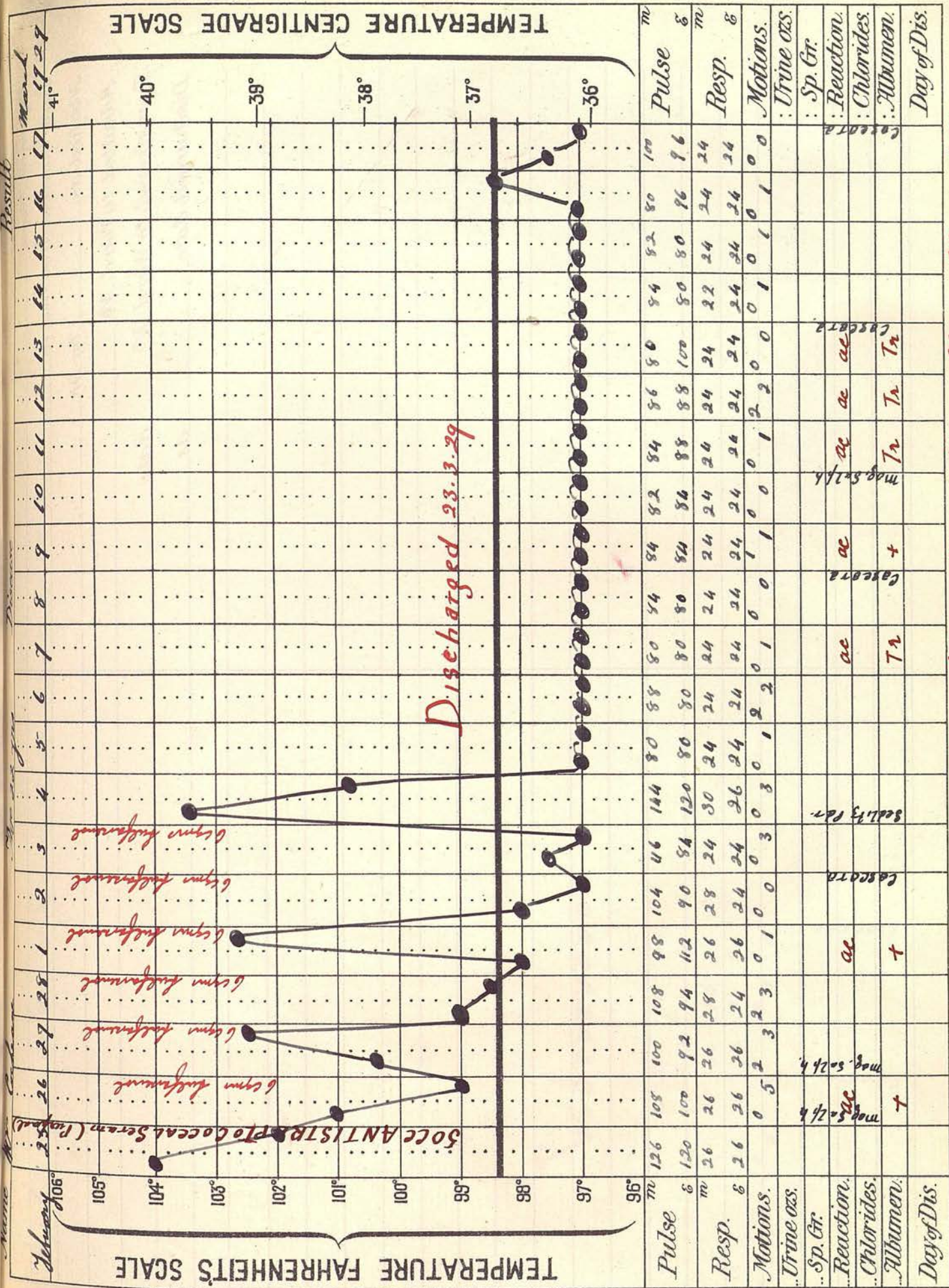
Number of days in hospital = 24

Number of days duration of fever

in hospital = 7.

TEMPERATURE FAHRENHEIT'S SCALE

TEMPERATURE CENTIGRADE SCALE



Day of Confinement 5





TEMPERATURE FAHRENHEIT'S SCALE

March

TEMPERATURE CENTIGRADE SCALE

Pulse

*Resp.*

Motions.

Sp. Gr.

*Reaction.*

Albumen.

*Day of Dis.*

86

72

1

2

LE

2

Day of Creation 26

28

30

32

34

36

38

40

24

44

97.

Patient's Name \_\_\_\_\_

*Information to be sent to*

Notified as \_\_\_\_\_ by Dr-

Admitted to Ward No.

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as \_\_\_\_\_

[illegible]



Case 20.

Mrs. C. Aet 22 years. Primipara. Previous Infectious Diseases = Whooping-cough.

History: 21/2/29. Normal delivery with shivering following the birth. 25/2/29 Headache, pains in the abdomen.

Admitted to hospital on the 5th day of the puerperium and ? 5th day of disease. Temp. 104, Pulse 126.

Clinical Notes: Abdomen: nil abnormal to note.

Cervix: Both lips lacerated. Yellowish foul blood stained discharge from the uterus. Vagina and Perineum show no tears.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of Urine = No casts,  
no pus cells, no organisms.

Uterine Culture = Not taken.

Blood Picture = Erythrocytes = 3,550,000  
Haemoglobin - 65%. Colour  
Index = .9. Leucocytes =  
16,800. Polymorphs =  
73%. Lymphocytes = 24%  
Large mononuclears = 2%  
Eosinophils = 1%.

Treatment and Progress: 50 c.c. antistreptococcal serum (puerperal) on day of admission. Femergin. Glycerine treatment. Sulfarsenol 6 cgm. daily for 5 days. For a week following admission patient's temp.



kept swinging between 99 and 102 and 103.4, the pulse usually being about 100. The temp. and pulse then both settled down for the remainder of convalescence.

Number of days in hospital = 27

Number of days duration of

fever in hospital = 6.

Case 21.

Mrs. R. Aet. 29. Primipara. Previous Infectious Diseases - unknown.

History: 1/3/29. Induction of Labour by quinine and piturin - full time still born child (dead for at least 2 days) - cord almost completely gone - placenta foul and decomposing but complete. Foul uterine discharge. Evening temp. 102, Pulse 100. Old history of Nephritis. During Pregnancy patient had vomiting, headache, oedema of feet and albuminuria. Admitted to hospital on the 5th day of the puerperium and 5th day of disease. Temp. 100. Pulse 96.

Clinical Notes: Patient looks well. No signs of anaemia. Abdomen: no tenderness present. Uterus firm and involuted. No tenderness on deep palpation. Cervix: lips appear eroded. No tears. Profuse purulent discharge from uterus. Os. patulous. Vagina small superficial tear in the posterior vaginal wall. Perineum = no tears.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = No casts, no pus cells, no organisms.

Uterine Culture = Not taken.

Blood Picture = Erythrocytes = 3,980,000

Haemoglobin = 78%.

Colour Index = 1.

Leucocytes = 10,200.

Polymorphs = 69%.

Lymphocytes = 29%. Large

mononuclears = 1%.

Eosinophils = 1%.

Treatment and Progress: Femergin. Glycerine Treatment. quinine Sulph. gr.  $\overline{\text{III}}$  t.i.d. Temperature normal day after admission and pulse 88. Patient made a good recovery.

Number of days in hospital = 15.

Number of days duration of

fever in hospital = 1.

Case 22.

Mrs. C.S. Aet 33 years. Multipara. Previous Infectious Diseases = Measles, Whooping-Cough.

History: 20/3/29. Normal delivery. Slight post partum haemorrhage. 23/3/29. Temp. 101. Pulse 130. Rigor. 24/3/29. Temp. 100. Pulse 132 - evening temp. 102.4, pulse 136. 20 c.c. antistreptococcal serum given. 25/3/29. Temp. 103. Pulse 128. Lochia profuse. Patient mentally depressed. 26/3/29. Temp. 102.6. Pulse 120 - Patient practically pulseless.

Admitted to hospital on the 6th day of the puerperium and 4th day of disease. Temp. 101, Pulse 120.

Clinical Notes: Patient very pale and anaemic.

Abdomen: No tenderness over site of uterus. Slight tenderness low down in right iliac fossa. Cervix, Vagina and Perineum = no lacerations or abnormalities observed. Heart: soft blowing systolic murmur propagated into left axilla. Some dilatation and hypertrophy of Left Ventricle. Legs: oedema of feet and ankles.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = a few  
hyaline casts, pus cells  
+++ , B. Coli +++.

Uterine Culture = Staphylococcus albus  
and B. Coli.

Blood Picture = Erythrocytes = 2,000,000

Haemoglobin = 30%. Colour  
 Index = .7. Leucocytes =  
 9,880. Polymorphs = 75%.  
 Lymphocytes = 21%. Large  
 mononuclears = 3%.  
 Eosinophils = 1%.

Treatment and Progress: 20 c.c. Scarlet Fever anti-  
 toxin on day of admission. Glycerine Treatment.  
 Femergin. Mist Pot Cit et Sod Bic.

On the day following admission temp. normal, pulse  
 still fast, about 120. A few days later the temp.  
 began to rise in the evenings to 101, pulse 100 to  
 110. On the 7th day of admission patient developed  
 an urticarial serum rash. This soon cleared up and  
 convalescence was uneventful.

Number of days in hospital = 20

Number of days duration of

fever in hospital = 7.

Case 23.

Mrs. G. Aet. 20 years. Primipara. Previous Infectious Diseases = Measles.

History: 23/3/29. Forceps Delivery. No further history obtained. Admitted to hospital on the 5th day of the puerperium and 5th day of disease. Temp. 99. Pulse 132.

Clinical Notes: Patient pale and anaemic.

Abdomen: Fundus of uterus palpable just below and to the right of umbilicus. It is enlarged and tender. Tenderness in the right iliac fossa. Perineum: long deep irregular tear extending down to the right of the anus. It is septic and dirty - sutures septic so removed. Deep wound in the right vaginal wall.

Cervix: swollen, oedematous and lacerated.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of Urine = No casts,  
pus cells +, B. Coli +.

Uterine Culture = Haemolytic streptococci.

Blood Picture = Erythrocytes = 3,330,000  
Haemoglobin = 56%. Colour  
Index = .8. Leucocytes =  
16,000. Polymorphs = 73%.  
Lymphocytes = 22%. Large  
mononuclears = 4%.  
Eosinophils = 1%.

Dick Test = Negative (? 5th day of  
disease).



Treatment and Progress: Glycerine treatment.

Sulfarsenol 12 cgm. daily for 6 days. Mist Pot Cit  
et Sod Bic.

Temp. 100 Pulse 112-116, for 3 days after admission.

Then temp. became normal with pulse of 110 until

10 days after admission. When temp. rose to 100.4

and pulse 120. Continued so for the next 2 days and

on 13th day after admission patient had a rigor -

Temp. 102.8, Pulse 140, probably due to a small

thrombus let loose into the circulation from a

thrombo-phlebitis in the right or left broad ligament.

Temp. kept remitting until the 20th day after ad-

mission when it settled at 98.4. The urinary

condition cleared up also.

Number of days in hospital = 39.

Number of days duration of

fever in hospital = 13.

Case 24.

Mrs. W. Aet 19 years. Primipara. Previous Infectious Diseases = unknown.

History: 17/3/29. Forceps Delivery. Temp. raised for 4 days before admission. Admitted to hospital on the 11th day of the puerperium and 4th day of disease. Temp. 100 Pulse 136.

Clinical Notes: Patient looks well. Good colour. No obvious anaemia. Abdomen: nothing abnormal to note. Perineum: deep extensive tear present which does not however involve the rectum. It is septic and dirty. Cervix: os much swollen and eroded. Both anterior and posterior lip lacerated.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of Urine = No casts, no pus cells, no organisms.

Uterine Culture = Non-haemolytic streptococci.

Blood Picture = Erythrocytes = 3,000,000  
Haemoglobin = 46%. Colour  
Index = .7. Leucocytes =  
12,200. Polymorphs = 63%  
Lymphocytes = 30%. Large  
mononuclears = 4%.  
Eosinophils = 2%. Basophils = 1%.

Dick Test = Negative (4th day of disease).

Treatment and Progress: Glycerine Treatment. Femergin

Sulfarsenol 12 cgm. daily for 4 days.

Temp. normal on 3rd day of admission. Pulse 88.

Temp. rose for a few more days to 99, but pulse never over 100. Patient settled down very nicely - the total condition healing up satisfactorily.

Number of days in hospital = 27.

Number of days duration of  
fever in hospital = 5.

Case 25.

Mrs. S. Aet 25 years. Multipara. Previous Infectious Diseases = unknown.

History: 20/3/29. Forceps Delivery. Has had a temp. on and off since. Admitted to hospital on the 8th day of the puerperium and 8th day of disease. Temp. 101.6. Pulse 112 to 120.

Clinical Notes: Patient looks well. No signs of anaemia. Abdomen: nothing abnormal to note. Fundus uteri not palpable. Perineum: tear present, but appears clean. Cervix: swollen, congested and catarrhal, one small laceration present.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of Urine = No casts, no pus cells, no organisms.

Uterine Culture = Non-haemolytic streptococci.

Blood Picture = Erythrocytes = 3,560,000.  
Haemoglobin = 42%. Colour Index = .7. Leucocytes = 16,000. Polymorphs = 81%. Lymphocytes = 15%. Large mononuclears = 2%. Eosinophils = 2%.

Dick Test = Negative (8th day of disease).

Treatment and Progress: Glycerine Treatment. Emergin. Sulfarsenol 12 cgm. daily for 6 days. Temp.

remittent for 3 days following admission. Pulse 108. Slight daily rises of temp. until the 11th day following admission when the temp. settled. General condition good. Good Recovery.

Number of days in hospital = 25.

Number of days duration of

fever in hospital = 11.

Case 26.

Mrs. J.T. Aet. 30 years. Multipara. Previous Infectious Diseases = nil.

History: 24/3/29. Macerated foetus delivered.

Placenta unhealthy looking. 26/3/29. Headache. Pain in the right side of the abdomen. Temp. 102.8. Pulse 112. 27/3/29. Temp. 103, Headache. Lochia offensive. Admitted on the 5th day of the puerperium and 3rd day of disease. Temp. 110, Pulse 110.

Clinical Notes: Abdomen: appears a little full to the right of umbilicus. Fundus uteri firm and palpable just below the umbilicus - tender on palpation. Some tenderness low down in the right iliac fossa.

Perineum: slight laceration present. Cervix: swollen and oedematous. No lacerations observed. Foul dirty and offensive discharge.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of Urine = No casts,  
no pus cells, no  
organisms.

Uterine Culture = Staphylococcus albus  
and a few non-haemolytic  
streptococci present.

Blood Picture: Erythrocytes = 3,800,000

Haemoglobin = 50%.

Colour Index = .7.

Leucocytes = 11,000.

Polymorphs = 73%.



Lymphocytes = 13%. Large

mononuclears = 12%.

Eosinophils = 2%.

Dick Test = Negative (5th day of disease)

Treatment and Progress: Glycerine Treatment. Femer-  
gin. Temperature became normal on 3rd day of ad-  
mission, the pulse dropping to 70. The Glycerine  
treatment brought away much foul discharge which  
cleared up very well after 4 days of Glycerine Treat-  
ment. Good Recovery.

Number of days in hospital = 17.

Number of days duration of

fever in hospital = 3.

Case 27.

Mrs. M.M. Aet 20 years. Primipara. Previous Infectious Diseases = Scarlet Fever.

History: 20/3/29. Forceps delivery. Temp. raised on and off since. Shivering. Headache. Pains all over the body.

Admitted on the 8th day of the puerperium and 8th day of disease. Temp. 100.5. Pulse 112.

Clinical Notes: Patient pale and anaemic. Pulse rapid - poor volume - regular. Abdomen: nothing abnormal to note. Perineum: no tears. Cervix: very much swollen and oedematous. Vaginal part of cervix around the os is eroded and sloughing - it presents a dirty eroded appearance". Lochia very profuse, foul smelling, dirty brown in colour. The whole vaginal part of the cervix is very greatly enlarged and hypertrophied.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = No casts, no pus cells, no organisms.

Uterine Culture = Haemolytic streptococci and B. Coli.

Blood Picture = Erythrocytes = 2,200,000  
Haemoglobin = 30%. Colour  
Index = .7. Leucocytes =  
18,000. Polymorphs = 75%  
Lymphocytes = 9%. Large  
mononuclears = 14%.

Eosinophils = 2%.

Dick Test = Negative (8th day of disease).

Treatment and Progress: Glycerine Treatment. Femer-  
gin. Sulfarsenol 12 cgm. biweekly for 14 days. Re-  
mittent temp. 103 and normal for 6 days following ad-  
mission. Pulse 126. Then temp. continued steady at  
102 for the next 3 days. For a further 6 days  
temp. varies between 99 and 101. Pulse 90 to 100.  
Still foul discharge though much less in amount.  
Glycerine Treatment continued.

Temp. then became normal for 10 days but pulse still  
a little fast at 100. Then temp. rose to 102 and  
examination of the urine revealed the presence of a  
B. Coli pyelitis. Three days from this patient de-  
veloped a phlebitis of the left leg and follicular  
tonsillitis. Temp. then settled and was normal for  
the rest of patient's stay in hospital.

Patient had Glycerine Ichthyol tampons inserted for  
her last three weeks in hospital as the cervix was  
still greatly enlarged and congested. Patient ul-  
timately went home to rest in bed there, as the left  
leg was still a little swollen. Urinary condition  
much improved as well as general condition.

Number of days in hospital = 73.

Number of days duration of

fever in hospital = 25.

Case 28.

Mrs. J.H. Aet 29 years. Multipara. Previous Infectious Diseases = Nil.

History: 19/3/29. Normal Delivery. 26/3/29. Temp. raised. Headache. Admitted to hospital on the 11th day of the puerperium and 4th day of disease. Temp. 100, Pulse 120.

Clinical Notes: Face: pasty pale grey colour.

Abdomen: a little distended below umbilicus. Fundus uteri not palpable. No tenderness. Heart: systolic haemic murmur in mitral area. Perineum and Vagina show no tears. Cervix: Lips swollen, red and catarrhal. Slight laceration of anterior lip. Dirty foul brown discharge from uterus - Profuse lochia.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = No casts, no pus cells, no organisms.

Uterine Culture = Haemolytic Streptococci.

Blood Picture = Erythrocytes = 2,500,000.

Haemoglobin = 35%. Colour

Index = .7. Leucocytes =

13,000. Polymorphs = 72%.

Lymphocytes = 20%. Large mononuclears = 4%.

Eosinophils = 3%. Basophils = 1%.

Dick Test = Negative (4th day of disease).

Treatment and Progress: Glycerine Treatment. Femer-

gin. Sulfarsenol 12 cgm. daily for 6 days. Temp. intermitted (100 and 97) for 5 days after admission Pulse 110. Then Temp. was normal for 4 days. Then again it intermitted at 100.8 and 97 for 2 further days before settling. Good Recovery made.

Number of days in hospital = 24.

Number of days duration of

fever in hospital = 8.

Case 29.

Mrs. E.B. Aet 37 years. Multipara. Previous Infectious Diseases = Nil.

History: 23/3/29. Normal Delivery. 27/3/29

Shivering. 28/3/29. Headache, vomiting, and abdominal pain.

Admitted to hospital on the 6th day of the puerperium and 2nd day of disease. Temp. 102. Pulse 110.

Clinical Notes: Patient looks well.

Abdomen: Fundus uteri not palpable, but tenderness over its site. Tenderness in right iliac fossa especially around McBurney's point. Perineum: small tear present. Cervix: swollen and eroded. Both lips present a red congested granular appearance. Lochia foul smelling, dark red in colour, fairly profuse.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = No casts, no pus cells, no organisms.

Uterine Culture = Non-haemolytic streptococci and staphylococci (albus).

Blood Picture = Erythrocytes = 3,500,000  
Haemoglobin = 55%. Colour Index = .8. Leucocytes = 19,800. Polymorphs = 82%  
Lymphocytes = 8%. Large mononuclears = 7%.



Eosinophils = 1%.

Dick Test = Negative (10th day of disease)

Treatment and Progress: Glycerine Treatment. Femer-  
gin. Hot saline and hydrogen peroxide douches.  
Mist Syr Ferri Iodide.

On the 3rd day of admission temp. and pulse became  
normal and patient made a good recovery.

Number of days in hospital = 20.

Number of days duration of

fever in hospital = 2.

Case 30.

Mrs. L.G. Aet 28 years. Primipara. Previous Infectious Diseases = unknown.

History: 3/4/29. Prolonged labour. Persistent occipito-posterior which rotated spontaneously. Forceps applied and episiotomy performed. Membranes ragged. 7/4/29. Temp. 103. Pulse 112. 8/4/29

A shred of membrane passed.

Admitted to hospital on the 6th day of the puerperium and 2nd day of disease. Temp. 102, Pulse 120.

Clinical Notes: Skin shows slight jaundice-like tinge. Patient feels quite well. Abdomen: no tenderness. Fundus uteri about one inch below umbilicus and is quite firm. Cervix: badly lacerated. Anterior lip is very swollen and oedematous. Some mucopurulent discharge issuing from cervix. Vagina appears healthy. Episiotomy incisions inflamed but sutures holding. At junction of posterior vaginal wall and perineum there is a small septic area from which a discharge of pus is issuing.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = no casts, no pus cells, no organisms.

Uterine Culture = B. Coli and staphylococci (aureus).

Blood Picture = Erythrocytes = 3,700,000.

Haemoglobin = 60%. Colour Index

.8. Leucocytes = 12,000.

Polymorphs = 83%. Lymphocytes =  
15%. Eosinophils = 2%.

Dick Test = Negative (5th day of disease).

Treatment and Progress: 50 c.c. antistreptococcal  
serum (puerperal) on day of admission. Femergin.  
Glycerine Treatment. Temperature fell to normal on  
4th day of admission. Pulse good, under 100.  
Patient sent home earlier than usual, as she has a  
very good home and is able to rest in bed for a  
further few days.

Number of days in hospital= 8

Number of days duration of

fever in hospital = 3.

Case 31.

Mrs. M.T. Aet 26 years. Primipara. Previous Infectious Diseases = unknown.

History: 26/4/29. Normal Delivery. Delayed 3rd stage of labour with free loss of blood. Patient collapsed 3 hours after expulsion of membranes. Pulse rapid and weak.

29/4/29 Temp. 103. Has had retention and catheterisation 29/4/29 (same day) 20 c.c. antistreptococcal serum given.

Admitted to hospital on the 6th day of the puerperium and 3rd day of disease. Temp. 102.8. Pulse 156.

Clinical Notes: Patient very anaemic and ill.

Abdomen: slightly distended. Fundus uteri three finger breadths below umbilicus, soft and tender. Tenderness over right broad ligament. Heart: well marked loud systolic bruit at base of heart. Sounds closed at apex. Bruit is not conducted to neck, probably haemic in nature. Vagina: filled with large blood clots and on these being removed a piece of membrane was extracted from the cervical canal. Cervix: badly lacerated. Foul smelling discharge and some bleeding which ceased after the glycerine catheter was withdrawn.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of Urine = No casts, a few pus cells, some B. Coli present.

Uterine Culture = Haemolytic Streptococci  
and Staphylococci (albus)

Blood Picture = Erythrocytes = 1,180,000  
Haemoglobin = 18%. Colour  
Index = .8. Leucocytes =  
18,800. Polymorphs = 86%.  
Lymphocytes = 13%.  
Eosinophils = 1%.

Dick Test = Negative (6th day of disease)

Treatment and Progress: Femergin. Quinine Sulph.

gr. **iv** t.i.d. Tinct Digitalis M. **xv** t.i.d.

Sulfarsenol 12 cgm. daily for 6 days. Mist Pot Cit  
et Sod. Bic. Glycerine Treatment.

Temp. kept swinging between 100 and 101 for 12 days  
following admission. Pulse 120. Patient then put on  
Sodium Cacodylate gr.  $\frac{3}{4}$  daily for 12 days. In a few  
days temp. 99 and pulse 100. In about another 7 days  
temp. remained steady at 98.4 and patient made a very  
good recovery.

Red blood count before discharge had come up to almost  
3 million red blood corpuscles. Patient had the usual  
convalescence treatment, namely, Ultra-violet light  
treatment, Bland's capsules and fresh liver in the  
diet.

Number of days in hospital = 35.

Number of days duration of

fever in hospital = 22.

Case 32.

Mrs. A.S. Aet 21 years. Primipara. Previous Infectious Diseases = unknown.

History: 29/4/29. Normal Delivery. 6/5/29 Shivering, off her food, no appetite, scanty lochia. Constipation. Temp. raised. Epistaxis before delivery and twice since. Admitted to hospital on the 11th day of the puerperium and 4th day of disease. Temp. 100. Pulse 96.

Clinical Notes: Abdomen: uterus well involuted.

No tenderness in any area. Some raised rose coloured spots on the abdomen, but are not the typical typhoid spots. Cervix: catarrhal. Small tear on the anterior lip. Purulent yellow discharge from the cervix. Vagina: no lacerations. Bimanual examination of the uterus reveals no tenderness. Uterus well involuted and freely movable. No tenderness or abnormal swellings in the fornices.

Blood Culture = Negative. Blood Culture for typhoid = Negative.

Wassermann = Negative. Widal = Negative.

Catheter specimen of urine = No casts, no pus cells, no organisms.

Uterine Culture = A few haemolytic streptococci and gram positive diplococci (like Gonococcus in shape).

Blood Picture = Erythrocytes = 4,000,000. Haemoglobin 80%. Colour Index = 1. Leucocytes = 8,600.



Polymorphs = 62%. Lymphocytes =  
38%.

Dick Test = Negative (4th day of disease).

Treatment and Progress: Case at first suggested a possible Typhoid but blood culture, Widal and stools all negative. Femergin.

The day after admission the temp. came down to normal and convalescence was uninterrupted. For the first week while under observation patient was kept upon a typhoid diet.

Number of days in hospital = 20.

Number of days duration of

fever in hospital = 2.

Case 33.

Mrs. M.S. Aet 27 years. Multipara. Previous Infectious Diseases = nil.

History: 29/4/29. Normal delivery. 3/5/29. Temp. raised. Shivering, 50 c.c. antistreptococcal serum given.

Admitted to hospital on the 18th day of the puerperium and 14th day of disease. Temp. 101.4, Pulse 108.

Clinical Notes: Abdomen: nothing abnormal to note. Morbilliform rash generalised on body. On the arms the macules have coalesced to form wheals. Rash very itchy. The uterus itself is well involuted. Fundus uteri just above symphysis.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of Urine = No casts, no pus cells, no organisms.

Uterine Culture = Sterile, no growth.

Blood Picture = Erythrocytes = 4,200,000.

Haemoglobin = 82%. Colour Index = .9. Leucocytes = 9,000

Polymorphs = 66%. Lymphocytes

33%. Eosinophils = 1%.

Treatment and Progress: Mist Ferri et Quin Cit.

Ung menthol for skin irritation (menthol 3*τ* to Paraff moll 3*τ* ).

Temp. between 99.6 and 100 with pulse of 104 for 6 days following admission. Some Joint pains on 6th day of admission.

Good recovery. Case was a local uterine infection evidently, but when admitted to hospital was suffering mainly from the serum rash following the antistreptococcal serum given 14 days before admission.

Number of days in hospital = 17.

Number of days duration of

fever in hospital = 6.

Case 34.

Mrs. S. Aet 32 years. Multipara. Previous Infectious Diseases = Measles, Diphtheria.

History: 14/5/29. Instrumental Delivery. 17/5/29. Headache, Shivering, Sickness, Sweating since birth of child.

Admitted on the 5th day of the puerperium and 2nd day of disease. Temp. 101. Pulse 124.

Clinical Notes: Patient very pale and anaemic.

Abdomen: Fundus uteri a little soft and situated 2 inches below umbilicus. No tenderness present. Lochia blood stained. Vagina: contains some blood clots. No tears. Cervix: hidden by blood clot issuing from cervical canal. This was removed and some strands of membrane were noted in the cervical canal. No lacerations of cervix.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = A few granular casts. No pus cells. No organisms.

Uterine Culture = Unidentified gram positive bacilli and staphylococci (albus).

Blood Picture = Erythrocytes = 4,100,000  
Haemoglobin = 68%. Colour  
Index = .8. Leucocytes =  
13,200. Polymorphs = 72%.  
Lymphocytes = 27%. Eosino-

phils = 1%.

Dick Test = Negative (7th day of  
disease).

Treatment and Progress:

40 c.c. antistreptococcal serum (puerperal) on  
day of admission.

Femergin. Glycerine Treatment. Quin Sulph gr.  
t.i.d.

Patient settled down very well. Temp. rose to 100  
on 7th day of admission, due to serum reaction. Slight  
rise of temp. to 99.6 on 12th and 13th days of ad-  
mission. Otherwise convalescence normal.

Number of days in hospital = 22.

Number of days duration of

fever in hospital = 4.

Case 35.

Mrs. B. Aet 35 years. Multipara. Previous Infectious Diseases = unknown.

History: 29/5/29. Forceps Delivery. 30/5/29.

Shivering. Headache. Temp. 103. Admitted to hospital on the 5th day of the puerperium and 4th day of disease. Temp. 103. Pulse 120.

Clinical Notes: Abdomen: Fundus of uterus midway between umbilicus and symphysis. Firm. Involuted. No tenderness. Slight tenderness over region of the right kidney. Patient confused and irritable. She tries to get out of bed and habits tend to be dirty. Cervix: very badly lacerated, copious sticky blood stained offensive discharge.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = No casts, a few pus cells, no organisms.

Uterine Culture = Haemolytic Streptococci,  
Staphylococci (albus),  
Gram positive diplococci.

Blood Picture = Erythrocytes = 4,400,000

Haemoglobin = 76%. Colour

Index = .8. Leucocytes =

13,600. Polymorphs = 75%

Lymphocytes = 24%. Eosino-  
phils = 1%.

Dick Test = Negative (4th day of disease)

Treatment and Progress: 40 c.c. antistreptococcal



serum (puerperal) on day of admission. Glycerine  
Treatment - Femergin. Mist Pot Cit et Sod Bic.  
Temp. came down and was normal for 6 days following  
admission. Then temp rose to 100 and 101.4 for next  
3 days. Pulse good all along, steady at 84. Rise of  
temp. on 6th and 7th days probably due to serum  
reaction.

Good Recovery made.

Number of days in hospital = 20.

Number of days duration of

fever in hospital = 4.

Case 36.

Primipara

Mrs. S. Aet 24 years. / Previous Infectious Diseases  
Mumps.

History: 26/5/29. Delivery. Character unknown.

2/6/29. Rigor. Temp. 101.6. 50 c.c. antistreptococ-  
cal serum given. 3/6/29. Temp. 102.2. Pulse 92.

4/6/29. Temp. 102.2. Pulse 108. Lochia never  
offensive. Has been in contact with a case of  
Puerperal Infection. Admitted to hospital on the 10th  
day of the puerperium and 4th day of the disease.  
Temp. 100. Pulse 110.

Clinical Notes: Patient very small in stature. Ap-  
pears debilitated and anaemic. Abdomen: Fundus of  
uterus just above symphysis, slightly tender. No  
tenderness elsewhere, except some tenderness and pain  
complained of on palpating over the region of the  
right kidney.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = A few  
granular casts, Pus  
Cells +++ B. Coli ++.

Uterine Culture = B. Coli and Staphylococci  
(albus).

Blood Picture = Erythrocytes = 2,500,000  
Haemoglobin = 40%. Colour  
Index = .8. Leucocytes =  
16,000. Polymorphs = 82%.  
Lymphocytes = 16%. Large

mononuclears = 2%.

Dick Test = Negative (4th day of disease).

Treatment and Progress: Femergin. Mist Pot Cit et Sod  
Bic.

Except for one rise of temp. to 100.2 on the 4th day  
of admission, temp. and pulse have been satisfactory.

Number of days in hospital = 16.

Number of days duration of

fever in hospital = 3.

Case 37.

Mrs. B. Aet 22 years. Primipara. Previous Infectious Diseases = Measles, Mumps.

History: 2/6/29. Normal delivery. Perineal tear sutured 4/6/29. Rigor. Temp. 104. Pulse 120.

Red Lochia, profuse, not offensive. 50 c.c. anti-streptococcal serum given. In the evening Temp.

105.4. Pulse 140. Slight headache.

Admitted to hospital on the 3rd day of the puerperium and 1st day of disease. Temp. 103.8. Pulse 128.

Clinical Notes: Face flushed. Abdomen: No rigidity or tenderness except over the fundus of uterus which is situated midway between the umbilicus and symphysis. Fundus is firm but tender. No thickening apparent in the Broad ligaments. Cervix: several small lacerations present. Os is reddened and eroded. Purulent discharge from cervical canal. Uterine discharge is slightly blood stained, but not offensive. Small tear in the posterior vaginal wall. Perineal tear - sutures septic and discharge of pus from the wound.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of Urine = A few granular casts and pus cells. No organisms.

Uterine Culture = B. Coli, Staphylococci (albus), Diphtheroids.

Blood Picture = Erythrocytes = 4,150,000.

Haemoglobin = 80%. Colour Index = .9. Leucocytes = 17,200. Polymorphs = 78%. Lymphocytes = 20%. Eosinophils = 2%.

Dick Test = Negative (1st day of disease).

Treatment and Progress: Glycerine Treatment. Femergin.

Mist Pot Cit et Sod Bic. 12 c.c. Mercurochrome intravenously on day of admission.

20 c.c. Mercurochrome intravenously and 50 c.c. antistreptococcal serum (puerperal) intramuscularly on day after admission when temp. reads 102.6 and pulse 104. For the next two days temp. intermittent normal and 100. Then temp. normal for four days and then a rise to 104.2. Pulse 136. Possibly serum reaction as thereafter patient had an uninterrupted convalescence.

Number of days in hospital = 22.

Number of days duration of

fever in hospital = 5.

Case 38.

Mrs. J.S. Aet 33 years. Multipara. Previous Infectious Diseases = unknown.

History: 21/5/29. Admitted to Maternity Hospital with Mitral stenosis. Blood Pressure: Systolic = 156, Diastolic = 100. Albuminuria. 29/5/29. Normal Delivery. 5/6/29. Temp. 102.2. Pulse 120. Patient in contact with another case of Puerperal Infection. Admitted to hospital on the 8th day of the puerperium and 1st day of the disease. Temp. 100.6. Pulse 136.

Clinical Notes: Abdomen: Fundus of uterus firm  $1\frac{1}{2}$ " above symphysis. No tenderness present. No tenderness over Broad Ligaments. Cervix, Vagina and Perineum - nothing abnormal to note. Heart: Right side enlarged. No thrill present. Presystolic mitral murmur inside the left nipple line.

Lungs = No dullness. Vesicular breathing with a few odd crepitations at the bases.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = No casts, pus cells ++ B. Coli ++.

Uterine Culture = Sterile. No growth obtained.

Blood Picture: Erythrocytes = 4,200,000.

Haemoglobin = 80%. Colour Index = .9. Leucocytes = 14,000.

Polymorphs = 82%. Lymphocytes = 12%. Large mononuclears = 4%

Eosinophils = 2%.



Dick Test = Negative (1st day of disease).

Treatment and Progress: 50 c.c. antistreptococcal serum (puerperal) on day of admission. Mist Pot Cit et Sod Bic.

The day after admission temp. fell to normal and pulse to 100.

Convalescence normal.

Number of days in hospital = 18.

Number of days duration of

fever in hospital = 1.

Case 39.

Mrs. E.J. Aet 29 years. Multipara. Previous Infectious Diseases - Mumps.

History: 7/6/29. Normal Delivery. 8/6/29. Headache. Shivering and abdominal pains. Admitted to hospital on the 4th day of the puerperium and 3rd day of disease. Temp. 103. Pulse 120.

Clinical Notes: Abdomen: Fundus of uterus about 1 inch below umbilicus. Firm, very little tenderness. Cervix: small with one small laceration of anterior lip. Offensive and profuse discharge from uterus. Heart: faint systolic murmur, not well propagated into the left axilla. No dilatation.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = No Casts,  
Pus cells +++, B. Coli.  
+++.

Uterine Culture = Non-haemolytic  
streptococci.

Blood Picture = Erythrocytes = 4,050,000

Haemoglobin = 80%.

Colour Index = 1.

Leucocytes = 12,500.

Polymorphs = 76%.

Lymphocytes = 22%.

Large mononuclears = 1%

Dick Test = Negative (3rd day of  
disease).

Treatment and Progress: 40 c.c. antistreptococcal serum (puerperal) on day of admission. Temp. 101. Pulse 120 and 40 c.c. antistreptococcal serum (puerperal) given on day after admission. Temp. 98. Pulse 108 and 40 c.c. antistreptococcal serum (puerperal) given on 3rd day of admission. Glycerine treatment. Femergin. Mist. Pot Cit et Sod Bic Calomel gr.  $\frac{iii}{iv}$  as required and irrigations (bowel) Slight temp. 99 to 100 for about one week after admission. Thin offensive discharge persisting. Cavity of uterus small. Very little discharge from uterus on injecting glycerine. Patient constipated. On the 9th day of admission urticarial serum rash on body. Swelling in right thigh at site of serum injection. Satisfactory involution of uterus. A very slight discharge from the uterus still present. Patient's general condition very good.

Number of days in hospital = 23.

Number of days duration of

fever in hospital = 7.

Case 40.

Mrs. H.C. Aet 30 years. Multipara. Previous Infectious Diseases = Scarlet Fever, Measles.

History: 6/6/29. Normal Delivery. 7/6/29. Shivering. Headache. Abdominal pain. 10/6/29. Slightly delirious.

Admitted to hospital on the 5th day of the puerperium and 4th day of disease. Temp. 103, Pulse 124.

Clinical Notes: Patient complains of headache only.

Abdomen: Fundus of uterus is 2 inches above symphysis. Tenderness on palpation. Cervix; large and inflamed. One lateral tear present on the right side. Offensive discharge present but not profuse. Vagina and Perineum: nothing abnormal to note.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine - A few granular and hyaline casts. A few pus cells. No organisms.

Uterine Culture = Haemolytic Streptococci and Staphylococci (albus).

Blood Picture = Erythrocytes = 4,040,000.

Haemoglobin = 60%. Colour

Index = .7. Leucocytes =

17,700. Polymorphs = 91%.

Lymphocytes = 7%. Large

mononuclears = 2%.

Dick Test = Negative (4th day of disease).

Treatment and Progress: 40 c.c. antistreptococcal serum (puerperal) on day of admission. One day after admission Temp. 101.6. Pulse 100. Another 40 c.c. antistreptococcal serum (puerperal) given. Two days after admission Temp. 100. Pulse 100. Another 40 c.c. antistreptococcal serum (puerperal) given. Patient also on Femergin. Mist Pot Cit et Sod Bic. Glycerine Treatment. Temp. kept flickering for a week following between 98.4 and 101 or 100. 9 days after admission patient developed a generalised urticarial serum rash. After the 10th day of admission temp. intermittent 99.6 and 98.4 for 3 days, and then continued at 102 and 103 for a further 3 days. Pulse all the while being not too fast, never over 100. Convalescence was uninterrupted and patient made a good recovery.

Number of days in hospital = 27

Number of days duration of

fever in hospital = 14.

Case 41.

Mrs. M.R. Aet 31 years. Multipara. Previous Infectious Diseases = nil.

History: 6/6/29. Normal Delivery. 8/6/29. Shivering and abdominal pain. Admitted to hospital on the 5th day of the puerperium and 3rd day of disease. Temp. 103. Pulse 108.

Clinical Notes: Abdomen: Fundus of uterus just below the umbilicus. A little enlarged but not boggy or tender on palpation. Cervix: no lacerations. Offensive thick yellow discharge. Vagina and Perineum normal.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = A few granular and hyaline casts. A few pus cells. no organisms.

Uterine Culture = B. Coli and Staphylococci (albus).

Blood Picture = Erythrocytes = 3,100,000  
Haemoglobin = 50%. Colour Index = .8. Leucocytes 8,600. Polymorphs = 82%. Lymphocytes = 15%. Large mononuclears = 3%.

Dick Test = Positive (3rd day of disease)

Treatment and Progress: 40 c.c. antistreptococcal serum (puerperal) on day of admission. Femergin.

Glycerine Treatment. Mist Pot Cit et Sod Bic. For three days following admission temp. maintained about 99 to 99.6. Pulse 92. Temp. then settled and patient made an excellent recovery.

Number of days in hospital = 16

Number of days duration of

fever in hospital = 4.



Case 42.

Mrs. K. Aet 20 years. Primipara. Previous Infectious Diseases = Measles.

History: 9/6/29. Normal Delivery. Labour lasted 57 hours. Post-partum haemorrhage. Received saline and gum acacia intravenously. Temp. each night since, 100 to 100.8. Pulse 110 to 120. Placenta and membranes said to be complete but ragged. 12/6/29. Lochia very offensive. Admitted to hospital on the 4th day of the puerperium and 4th day of disease. Temp. 101. Pulse 108.

Clinical Notes: Patient complains of tenderness low down in abdomen, headache, and slight pain on micturition. Patient very pale and anaemic.

Abdomen: Fundus of uterus one inch above symphysis - tender on heavy palpation. Foul smelling brownish discharge from uterus. Vaginal walls show sloughing patches and are much swollen. Cervix: slight tear on anterior lip. Vulva: no swelling.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = No casts, no pus cells, no organisms.

Uterine Culture = Haemolytic Streptococci.

Blood Picture = Erythrocytes = 1,390,000

Haemoglobin = 25%. Colour

Index = .9. Leucocytes =

16,300. Polymorphs = 71%.

Lymphocytes = 25%. Large

mononuclears = 3%.

Eosinophils = 1%.

Dick Test = Negative (4th day of disease).

Treatment and Progress: 50 c.c. antistreptococcal serum (puerperal) on day of admission. Temp. 100.6 Pulse 108, on day following admission, given another 50 c.c. antistreptococcal serum (puerperal). Temp. 98.4, Pulse fast = 126 on 3rd day of admission, given another 50 c.c. antistreptococcal serum (puerperal). Glycerine Treatment. Femergin. Mist Pot Cit and Pot Bic as complaining of pain on micturition. On 3rd day of admission still a thin brownish discharge from the uterus. The anterior lip of the cervix inflamed and swollen, and some blood noted oozing from the os. Temperature and pulse normal after 3rd day of admission except for 2 flickers of temp. to 100 with pulse of 100 to 110 on 12th and 13th days of admission. Patient developed a bright generalised urticarial serum rash on the 8th day of admission.

Number of days in hospital = 25.

Number of days duration of

fever in hospital = 4.

Case 43.

Mrs. F. Aet 21 years. Primipara. Previous Infectious Diseases = Measles.

History: 8/6/29. Normal Delivery. Labour lasted  $8\frac{1}{2}$  hours. Episiotomy performed as perineum very oedematous. 9/6/29 (evening) Temp. 100.2, Pulse 100. 10/6/29 (evening) Temp. 100.4, Pulse 120. 11/6/29. Offensive Lochia. 12/6/29 Temp. 100.6, Pulse 100. Lochia most offensive. Admitted to hospital on the 5th day of the puerperium and 4th day of disease. Temp. 100.4, Pulse 96.

Clinical Notes: Abdomen: uterus involuted but tender on palpation. Complaint of pain in the vulva on micturition. Vulva: swollen and oedematous. Sutures in perineum where episiotomy performed = sutures removed because of sepsis. Vaginal walls oedematous. Cervix: Towards the left side on the anterior lip there is a wide tear. A large raw area is exposed. Discharge from uterus of normal quantity and not very offensive.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = Some granular casts, pus cells and B. Coli.

Uterine Culture = Non-haemolytic Streptococci

Blood Picture = Erythrocytes = 4,400,000

Haemoglobin = 70%. Colour

Index = .8. Leucocytes =

15,720. Polymorphs = 63%.

Lymphocytes = 33%. Large  
mononuclears = 2.5%. Eosinophils =  
.5%. Basophils = 1%.

Dick Test = Negative (4th day of disease).

Treatment and Progress: 50c.c. antistreptococcal  
serum (puerperal) on admission. Temp. normal. Pulse  
80 and 50 c.c. antistreptococcal serum (puerperal)  
given on day after admission. Temp. normal. Pulse 80  
and 50 c.c. antistreptococcal serum (puerperal) given  
on 3rd day of admission. Temp. normal for 8 days after  
admission. Given Femergin and Glycerine Treatment.  
On 8th day of admission generalised morbilliform  
serum rash. From 9th to 16th day (inclusive) after  
admission patient ran a remittent temp. 102 and 99.  
Pulse 108-110. Afterwards patient settled very  
nicely and made a good recovery.

Number of days in hospital = 25.

Number of days duration of

fever in hospital = 9.

Case 44.

Mrs. E. McK. Aet 35 years. Multipara. Previous Infectious Diseases = nil.

History: 7/6/29. Normal Delivery. 12/6/29. Headache and pain in the back. Admitted to hospital on the 7th day of the puerperium and 2nd day of disease. Temp. 100.2. Pulse 124.

Clinical Notes: Abdomen: Fundus uteri just above symphysis, well contracted, no tenderness on palpation. Vagina: no tears. Cervix: swollen and reddened. A gaping tear present on the left side of the anterior lip. Red lochia escaping from uterus. Discharge neither thick nor offensive.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = No casts, no pus cells, no organisms.

Uterine Culture = Enterococci.

Blood Picture = Erythrocytes = 4,000,000.

Haemoglobin = 68%. Colour

Index = .8. Leucocytes =

12,000. Polymorphs = 80%.

Lymphocytes = 16%.

Eosinophils = 2%. Basophils = 1%.

Dick Test = Negative. (2nd day of disease)

Treatment and Progress: 50 c.c. antistreptococcal serum (puerperal) on day of admission. 50 c.c. antistreptococcal serum (puerperal) on day after admission.

Temp. subnormal. Pulse 102. 50 c.c. antistreptococcal serum (puerperal) on 2nd day after admission. Temp. subnormal. Pulse 88. Femergin. Glycerine Treatment. Patient made a very rapid recovery. In this case I quite agree that 150 c.c. of antistreptococcal serum (puerperal) was not essential, but at the time nearly all cases on admission irrespective of their local uterine condition were receiving it.

Number of days in hospital = 13.

Number of days duration of

fever in hospital = 1.

Case 45.

Mrs. A.W. Aet 19 years. Primipara. Previous Infectious Diseases = nil.

History: 7/6/29 Normal Delivery ? (History not accurate as to this point). Severe and persistent cough since parturition. Headache, but no sickness or rigors.

Admitted to hospital on the 7th day of the puerperium and 27th day of disease. Temp. subnormal. Pulse 112.

Clinical Notes: Abdomen: uterus contracted. Fundus just above the symphysis and is tender on heavy palpation. Vagina: no oedema or swelling. Perineum: small mid-line tear. Cervix: Small and firm. No lacerations. Slight blood stained discharge from uterus, but is not offensive. Chest: shows definite signs of bronchitis. Coarse râles present in both lungs.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of Urine = No casts, no pus cells, no organisms.

Uterine Culture = Sterile. No growth.

Blood Picture = Erythrocytes = 4,562,000.

Haemoglobin = 82%. Colour

Index = .9. Leucocytes =

13,500. Polymorphs = 79%.

Lymphocytes = 14%. Large

mononuclears = 5%. Eosino-

phils = 1%. Basophils = 1%.

Dick Test = Negative (27th day of disease)



Treatment and Progress: 50 c.c. antistreptococcal serum (puerperal) on day of admission. 50 c.c. antistreptococcal serum (puerperal) on day following admission. 50 c.c. antistreptococcal serum (puerperal) on 3rd day of admission.

This patient had a subnormal temperature all along. During her first two days in hospital however her pulse tended to be somewhat soft and rapid, I accordingly gave her 150 c.c. of antistreptococcal serum (puerperal).

The discharge from the uterus cleared up and the patient made an excellent recovery.

Number of days in hospital = 17.

Number of days duration of

fever in hospital = 0.

Case 46.

Mrs. M.G. Aet 21 years. Primipara. Previous Infectious Diseases = Measles.

History: 8/6/29. Normal Delivery. 17/6/29. Temp. 101. Pulse 92. 18/6/29. Temp. 102.8. Admitted to hospital on the 12th day of the puerperium and 3rd day of disease. Temp. 98.6. Pulse 98.

Clinical Notes: Patient appears very well. No history of any headache, shivering etc.

Abdomen: Uterus involuted. No tenderness over its site. No pelvic tenderness. No offensive discharge from the uterus.

Blood Culture = Not taken.

Wassermann = Not taken.

Catheter specimen of urine = No casts, no pus cells, no organisms.

Uterine culture = Not taken.

Blood Picture = Erythrocytes = 4,000,000.

Haemoglobin = 78%. Colour Index = .9. Leucocytes = 11,250.

Polymorphs = 81%. Lymphocytes = 18%. Large mononuclears = 1%.

Treatment and Progress: Femergin. Quin Sulph gr.  $\frac{iii}{\text{t.i.d.}}$  For two days patient ran a temp. of 101.8 in the evenings. Pulse 98 to 104. Then patient settled down - pulse and temp. normal and made a good recovery. The Leucocyte picture suggests mild sepsis - possibly very mild infection.

Number of days in hospital = 10.

Number of days duration of fever in hospital = 2

Case 47.

Mrs. B. Aet 28 years, Multipara. Previous Infectious Diseases = Measles, Whooping-cough.

History: 18/6/29. Normal Delivery. 21/6/29. Headache and abdominal pain. Admitted to hospital on the 7th day of the puerperium and 4th day of disease. Temp. 100.8, Pulse 108.

Clinical Notes: Abdomen: Fundus uteri one inch below the umbilicus, tender on palpation. Vagina: nothing abnormal to note. Cervix: one or two very small lacerations present. Slight yellowish discharge from uterus, inoffensive. Uterus appears enlarged.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = A few granular and epithelial casts, pus cells, gram positive cocci.

Uterine Culture = Gram positive diplococci (like gonococcus in shape) with a few staphylococci. (albus).

Blood Picture = Erythrocytes = 4,575,000.

Haemoglobin = 70%. Colour

Index = .7. Leucocytes =

18,750. Polymorphs = 85%.

Lymphocytes = 11%. Large

Mononuclears = 3%. Eosino-

phils = 1%.

Dick Test = Negative (4th day of disease)

Treatment and Progress: 50 c.c. antistreptococcal

serum (puerperal) on day of admission. Glycerine Treatment. Femergin. Mist Pot Cit et Sod Bic. For 6 days following admission the temp. kept rising to 99 or 100. Pulse however very quiet and regular. Temp. and pulse then normal for 3 days. On 12th day after admission Temp. 100.8. Pulse 108. On 13th day after admission Temp. 103. Pulse 120. On this date patient showed signs of a right sided pleurisy which however settled very quickly, and patient made a good recovery.

Number of days in hospital = 30.

Number of days duration of

fever in hospital = 11.

Case 48.

Mrs. F. Aet 28 years. Primipara. Previous Infectious Diseases = Measles, Whooping-Cough.

History: 22/6/29 Forceps delivery. Foetus dead and very offensive. Had been in labour about 70 hours. Numerous vaginal examinations made. History of offensive discharge before birth of child. 25/6/29 Temp. 99.4. Pulse 120. Lochia very offensive. Admitted to hospital on the 6th day of the puerperium and 3rd day of disease. Temp. 98.4. Pulse 108.

Clinical Notes: Complaint of abdominal pain on admission. Abdomen: uterus has not involuted. Fundus at level of umbilicus. Body of uterus big, heavy and tender on palpation. A very offensive dark brown discharge, profuse in quantity issuing from uterus. Cavity of uterus large. Cervix: swollen and lacerated. Blood oozing from it. Os gaping. Sloughing areas present on the vaginal surface. Vagina: large swollen, inflamed and sloughing areas present on walls. Vulva: very oedematous. Perineum: mid-line tear - gaping suture marks can be seen. Some slight tenderness on palpation over the Broad ligaments. Pulse poor. Heart sounds rapid and soft.

Blood Culture = Negative.

Wassermann = Anticomplementary serum.

Probably negative.

Catheter specimen of urine = Granular,  
hyaline and epithelial

casts, pus cells, streptococci, staphylococci and gram positive cocci.

Uterine Culture = Haemolytic Streptococci.

Blood Picture = Erythrocytes = 2,600. Haemoglobin = 30%. Colour Index = .9.

Leucocytes = 16,500. Polymorphs = 88%. Lymphocytes = 9%. Large mononuclears = 3%.

Dick Test = Negative (6th day of disease).

Treatment and Progress: 50 c.c. antistreptococcal serum (puerperal) on day of admission. 50 c.c. antistreptococcal serum (puerperal) on day following admission. Glycerine Treatment. Femergin. Mist Pot Cit, Sod Bic and Tinct hyoscyamus. Temperature remittent (97 and 100, 101.6) for about 10 days following admission. Pulse 80 to 100. On 10th day of admission Perineal tear gaping. A little yellowish discharge from uterus, not offensive. Fundus uteri mid-way between umbilicus and symphysis. A discharging superficial abscess present at site of serum injection on left thigh. On 17th day of admission Discharge from uterus rather increased in amount, offensive smell. Glycerine Treatment continued. Fundus uteri just above symphysis. Patient ultimately made a good recovery, the uterine discharge clearing up satisfactorily.

Number of days in hospital = 31.

Number of days duration of

fever in hospital - 0

Case 49.

Mrs. G.B. Aet 33 years. Multipara. Previous Infectious Diseases = Measles, Whooping-cough.

History: 30/6/29. Central Placenta Praevia. External Version performed and leg brought down. 3/7/29. Temp. 101. 7/7/29. Temp. 100.5. Pulse 104. Lochia slightly offensive. Admitted to hospital on the 8th day of the puerperium and 5th day of disease. Temp. 99. Pulse 128.

Clinical Notes: Abdomen: Fundus of uterus mid-way between umbilicus and symphysis. No tenderness on palpitation. Yellowish discharge, non-offensive, from uterus. Cervix: large and soft. External os large. No lacerations. Vulva and Vagina: normal.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = No casts, a few pus cells. Gram positive diplococci present.

Uterine Culture = Haemolytic Streptococci.

Blood Picture = Erythrocytes = 2,350,000.

Haemoglobin = 40%. Colour

Index = .9. Leucocytes =

143,000. Polymorphs = 75%.

Lymphocytes = 20%. Large

Mononuclears = 3%. Eosino-

phils = 2%.

Dick Test = Negative (5th day of disease).



Treatment and Progress: 50 c.c. antistreptococcal serum (puerperal) on day of admission. Femergin. Glycerine Treatment. Mist Pot Cit et Sod Bic.

On the day following admission a fleshy foul smelling mass was extruded from the uterus, like a piece of placenta and membranes.

Patient ran an intermittent temp. (rising to just under 100) for 6 days following admission. The pulse in this interval was fast, 120, and made one just a little bit anxious as to the ultimate prognosis of the case. However a week after admission the temp. stayed at normal and the pulse rate also slowed down to a quiet rate.

Number of days in hospital = 18.

Number of days duration of

fever in hospital = 6.

Case 50.

Mrs. J.W. Aet 21 years. Multipara. Previous Infectious Diseases = nil.

History: 4/7/29. Normal Delivery. 8/7/29. Headache, shivering, abdominal pain. Admitted to hospital on the 5th day of the puerperium and 1st day of disease. Temp. 104. Pulse 120-140.

Clinical Notes: Abdomen: Fundus of uterus situated mid-way between umbilicus and symphysis. No tenderness on palpation. Cervix: no tear. Blood-stained discharge, small in amount and inoffensive from the uterus. Vagina: anterior vaginal wall bulging downwards due to a cystocele. No tears noted.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = No casts, no pus cells, no organisms.

Uterine Culture = Unidentified gram positive bacilli and Gonococci.

Blood Picture = Erythrocytes = 3,206,000.

Haemoglobin = 55%. Colour

Index = .8. Leucocytes =

12,300. Polymorphs = 78%.

Lymphocytes = 22%. Large

mononuclears = 6%. Eosino-

phils = 4%.

Dick Test = Negative (1st day of disease).

Treatment and Progress: 50 c.c. antistreptococcal serum (puerperal) on day of admission. 50 c.c.

antistreptococcal serum (puerperal) on day following admission. Temp. 102.8. Pulse 124.

Glycerine Treatment. Femergin.

Temp. gradually fell and was normal on the 5th day of admission. Pulse 82. On 8th day after admission Temp. 99.6. Pulse 96. Patient developed an urticarial serum rash (generalised). On the next 2 days temp. 103 and pulse 120 - all due to serum reaction. Fundus of uterus still about 2 inches above the symphysis. Slight retroversion present. Slight discharge, not offensive still present. At the end of another week discharge ceased. Good recovery made.

Number of days in hospital = 23.

Number of days duration of

fever in hospital = 7.

Case 51.

Mrs. W. Aet 26 years. Multipara. Previous Infectious Diseases = Mumps.

History: 3/7/29. Caesarean Section. 4/7/29 Abdominal pains.

Admitted to hospital on the 11th day of the puerperium and 10th day of disease. Temp. 98.4. Pulse 96.

Clinical Notes: Abdomen: Fundus of uterus at level of umbilicus lying over to the right of the mid-line. Uterus enlarged but no tenderness on palpation. No tenderness in Iliac fossae. Cervix: No lacerations observed. Vagina narrow and perineum puckered. Some tenderness over abdominal scar, drainage opening at its lower end through which offensive discharge is issuing.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = No casts, Pus cells +, B. Coli +.

Uterine Culture = B. Coli and Staphylococci (albus).

Blood Picture: Erythrocytes = 4,000,000.  
Haemoglobin = 75%. Colour Index = .9. Leucocytes = 10,000. Polymorphs = 73%.  
Lymphocytes = 21%. Large mononuclears = 4%, Eosinophils = 2%.

Treatment and Progress: Femergin. Glycerine Treat-

ment. Mist Pot Cit et Sod Bic. Temp. only rose on 5th day of admission to 99. Otherwise Temp. and pulse normal throughout illness. Patient made a good recovery.

Number of days in hospital = 18.

Number of days duration of

fever in hospital = 1.

Case 52.

Mrs. McL. Aet 20 years. Primipara. Previous Infectious diseases = Nil.

History: 20/7/29. ? Normal Delivery (still birth).

21/7/29. Shivering, headache and abdominal pain.

Admitted to hospital on the third day of the puerperium and second day of disease. Temp. 102.6. Pulse 120.

Clinical Notes: Abdomen: Fundus of uterus at level of umbilicus, firm but slightly tender on deep palpation. Thickish red discharge and some clots passing from uterus - discharge not offensive. Cervix: lacerated. Vagina and perineum - deep tear in perineum and posterior vaginal wall. Tear has been sutured in half its length. Some pus and serous discharge from tear. Tear has not united. Chest: Generalised rhonci and râles in both lungs - bronchitis.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = Some epithelial and granular casts.  
Epithelial cells, pus cells, and red blood corpuscles. No organisms.

Uterine Culture = Haemolytic streptococci.

Blood Picture = Erythrocytes = 3,535,000.

Haemoglobin = 39%. Colour

Index = .5.

Leucocytes = 19,900. Polymorphs =  
88%. Lymphocytes = 9%. Large  
mononuclears = 3%.

Treatment and Progress: 20 c.c. Scarlet fever anti-  
toxin on day of admission.

50 c.c. antistreptococcal serum (puerperal) on day  
following admission.

20 c.c. Scarlet fever antitoxin on third day of ad-  
mission. Glycerine Treatment. Femergin. Mist Pot  
Cit and Sod Bic.

Temperature remittent - 101 and 102 to 100 and 99 for  
eight days after admission. Pulse 120 to 124. Then  
slight flickers of temp. to 99 for four more days,  
then temp. settled at normal. Pulse slower 100 to  
110. Sputum examined for first fourteen days of ad-  
mission but no tubercle bacilli found. Patient then  
settled down and had a normal convalescence.

Number of days in hospital = 34.

Number of days duration of

fever in hospital = 13.



Case 53.

Mrs. H.P. Aet 25 years. Primipara. Previous Infectious diseases = Scarlet Fever, Diphtheria.

History: 24/7/29. Twins delivered. 25/7/29.

Shivering and headache. Temp. elevated.

Admitted to hospital on the ninth day of the puerperium and eighth day of disease. Temp. 100.8. Pulse 120.

Clinical Notes: Patient pale and anaemic. Abdomen: Fundus of uterus at level of umbilicus, tender on palpation. Thin yellowish inoffensive discharge from uterus - profuse in amount. Cervix: situated high up, no laceration or swelling. Vagina: lacerated and sloughing areas on the lower parts of anterior and posterior walls. Perineum: deep lateral tear extending out from the vagina on the right side. Has been sutured on perineal side. The tear is gaping widely on the vaginal aspect. Lungs: A few rhonci and râles present. No dullness on percussion. Heart: A mitral systolic murmur present which is propagated into the left axilla. Both feet swollen and oedematous. Complaint of difficulty on micturition. Bladder  $1\frac{1}{2}$  inches above the symphysis pubis.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = A few granular casts, epithelial cells.  
Pus cells. Streptococci

and B. coli.

Uterine Culture = Non-haemolytic streptococci  
and staphylococci (albus).

Blood Picture = Erythrocytes = 2,600,000.

Haemoglobin = 43%. Colour Index =  
.8.

Leucocytes = 14,600. Polymorphs =  
78%. Lymphocytes = 16%. Large  
mononuclears = 3%. Eosinophils =  
1%. Myelocytes = 2%.

Treatment and Progress: 20 c.c. Scarlet Fever anti-  
toxin on day of admission.

20 c.c. Scarlet Fever antitoxin on day following ad-  
mission. Temp. 100. Pulse 118.

Glycerine Treatment. Femergin. Mist Pot Cit and  
Sod Bic. Metramine Capsules.

Temperature between 99 and 100 every evening until  
four days after admission when it became normal.

Pulse 100. Eight days after admission patient de-  
veloped an urticarial serum rash. Patient thereafter  
made a good recovery.

Number of days in hospital = 24.

Number of days duration of

fever in hospital = 5.

Case 54.

Mrs. E.W. Aet 27 years. Primipara. Previous infectious diseases = Measles and Whooping-Cough.

History: 29/7/29 Forceps Delivery. 30/7/29 Shivering, abdominal pain, headache.

Admitted to hospital on the sixth day of the puerperium and fifth day of disease. Temp. 101. Pulse 96.

Clinical Notes: Abdomen - Fundus of uterus three inches above the symphysis - no tenderness over uterus. Thick profuse blood stained discharge from uterus. No offensive smell. Pain to the right of uterus on deep palpation. Cervix: much lacerated Vagina: some sloughing at lower end of posterior wall. Perineum: a right sided deep lateral tear is gaping widely.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = No casts, no pus cells, no organisms.

Uterine Culture = not taken.

Blood Picture = Erythrocytes = 3,400,000

Haemoglobin = 38%. Colour

Index = .5. Leucocytes =

12,000. Polymorphs = 68%.

Lymphocytes = 24%. Large

mononuclears = 5%.

Eosinophils = 3%.

Treatment and Progress: 20 c.c. Scarlet Fever anti-toxin on day of admission. Glycerine Treatment.

Femergin.

Two days after admission temp. normal, pulse good =

80-90. Patient had a normal convalescence.

Number of days in hospital = 15.

Number of days duration of

fever in hospital = 2.

Case 55.

Miss M.B. Aet 25 years. Primipara. Previous infectious diseases = Measles and Whooping-Cough.

History: 19/7/29 Forceps Delivery. 31/7/29 Discharged from Maternity Hospital. 4/8/29 Shivering, headache, pain in the right leg from groin to knee. Admitted to hospital on the 18th day of the puerperium and second day of disease. Temp. 100. Pulse 84.

Clinical Notes: Abdomen - Fundus of uterus in normal position - no tenderness. Slight tenderness in left iliac fossa. Cervix: firm, small external os closed - no laceration. Vagina and Perineum: normal. Complaint of pain and tenderness along the line of the right femoral vein from the groin to the back of the calf. Some slight tenderness along the line of the left femoral vein. Pain in right wrist joint and in left thumb at the metacarpal-phalangeal joint. Heart: faint systolic mitral murmur, not well propagated into left axilla. No dilatation present. Lungs: breath sounds normal.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = No casts, a few pus cells. B. Coli ++.

Uterine Culture = Unidentified gram positive bacilli and gram positive cocci (unclassified). A few staphylococci

Cervical smear - no gonococci.

Blood Picture = Erythrocytes = 2,100,000.

Haemoglobin = 41%. Colour Index =  
.9.

Leucocytes = 15,600. Polymorphs 93%. Lymphocytes =  
6%. Eosinophils = 1%.

Treatment and Progress: Mist. Ferri et Quin Cit gr.  
X t.i.d. Temp. 101 to 102 and Pulse 112 to 120 for  
four days then dropped to normal. When temp. 102 on  
the fourth day there was some slight swelling with  
pain and tenderness in the joints of both shoulders,  
elbows and wrists. The joints of the lower jaw and  
the intervertebral joints of the neck also were pain-  
ful. Left knee joint painful. Much less pain in the  
joints of the right leg and feet.

Number of days in hospital = 20.

Number of days duration of

fever in hospital = 4.

Case 56.

Mrs. J.M. Aet 25 years. Multipara. Previous Infectious Diseases = Measles, Whooping-Cough.

History: 2/8/29 Normal Delivery. 4/8/29 Temp. 100.8. breasts tender. 7/8/29 Temp. 103, rigor, pulse 100. Headache, shivering, constipation, Admitted to hospital on the 7th day of the puerperium and 5th day of disease. Temp. 102.4, Pulse 112.

Clinical Notes: Abdomen: Fundus of uterus 2 inches above symphysis, no tenderness. Thick, dark brown mucoid discharge from uterus. Cervix: large soft external os patent, no lacerations. Vagina: normal. Perineum: shows no recent tears, old scar of mid-line tear present.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = No casts, a few pus cells. B. Coli present.

Uterine Culture = Staphylococci (albus).

Blood Picture = Erythrocytes = 3,800,000

Haemoglobin = 52%. Colour

Index = .7. Leucocytes =

17,400. Polymorphs = 81%.

Lymphocytes = 8%. Large mononuclears = 7%.

Eosinophils = 4%.

Treatment and Progress: 20 c.c. Scarlet fever anti-toxin on day of admission.



Glycerine Treatment. Femergin. Mist Pot Cit et  
Sod Bic. The day following admission the temp.  
became normal and patient had a normal convalescence.

Number of days in hospital = 15.

Number of days duration of

fever in hospital = 1.

Case 57.

Mrs. E.G. Aet 31 years. Multipara. Previous Infectious diseases = Nil.

History: 7/8/29 Mid forceps delivery, laceration of cervix, labour lasted 56 hours. Swinging temperature with rigors and headache since delivery. Pulse 98 to 126. On day of delivery 25 c.c. of antistreptococcal serum given intravenously and 25 c.c. antistreptococcal serum given intramuscularly. 8/8/29 25 c.c. antistreptococcal serum intramuscularly. Cervix infected, offensive lochia.

Admitted to hospital on the 6th day of the puerperium and sixth day of disease. Temp. 99.8. Pulse 118.

Clinical Notes: Abdomen: Fundus of uterus at level of umbilicus, firm but tender on palpation. Offensive, thick blood stained discharge profuse in quantity from uterus. Cervix: three deep lacerations present involving both lips. Vagina and Perineum: appear normal. Some slight tenderness on palpation. low down in the right iliac fossa.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = A few granular casts, some pus cells, streptococci and gram negative bacilli. (B. Coli).

Uterine Culture = Contaminated (B. Subtilis)

Blood Picture = Erythrocytes = 3,060,000.

Haemoglobin = 43%. Colour

Index = .7.

Leucocytes = 11,400. Poly-  
morphs = 81%. Lymphocytes =  
13%. Large mononuclears = 3%  
Eosinophils = 2%. Basophils =  
1%.

Treatment and Progress: Glycerine Treatment. Femergin  
Mist Pot Cit and Sod Bic. On the day following ad-  
mission patient developed a generalised urticarial  
serum rash. Temp. normal but pulse just over 100.  
Two days later temp. 99.4, pulse 104. After this  
patient settled down and made a very good recovery.

Number of days in hospital = 17.

Number of days duration of

fever in hospital = 2.

Case 58.

Mrs. P. Aet 31 years. Primipara. Previous Infectious diseases - Mumps, and whooping-cough.

History: 23/7/29 Low forceps delivery - perineum torn - two sutures inserted. 24/7/29 Temp. 101, pulse 136. 25/7/29. Temp. 103.2, pulse 146. 26/7/29 headache, temp. 102.2, pulse 120. 27/7/29 rigor, temp. 105, pulse 160.

Admitted to hospital on the 6th day of the puerperium and 5th day of disease. Temp. 99, pulse 130 fast and soft.

Clinical Notes: Patient has had two rigors following admission. Abdomen: Fundus of uterus just below the level of umbilicus, very tender on palpation, tenderness also present over the right and left Broad ligaments. Thickish red discharge from the uterus with an inoffensive smell. Cervix: soft, lateral, tear to the left side of the anterior lip. Vagina: normal. Perineum: mid-line tear.

Blood Culture = Negative.

Wassermann = Negative.

Catheter Specimen of urine = No casts, no pus cells, no organisms.

Uterine Culture = Haemolytic streptococci.

Blood Picture = Erythrocytes = 3,600,000.

Haemoglobin= 52%. Colour

Index = .7. Leucocytes =

16,500, Polymorphs = 80%.

Lymphocytes = 16%. Large

mononuclears = 3%.

Eosinophils = 1%.

Treatment and Progress: 100 c.c. Antistreptococcal serum (puerperal) on day of admission.

Glycerine Treatment. Femergin.

Condition much the same on the day following admission.

Pulse still rapid and soft at 130. Two days after admission patient had a rigor, temp. 103, pulse 120.

Three days after admission temp. came down to normal, pulse much quieter and patient proceeded to convalescence.

Number of days in hospital = 19.

Number of days duration of

fever in hospital = 3.

Case 59.

Mrs. McC. Aet 28 years. Multipara. Previous Infectious diseases = Nil.

History: 20/8/29 normal delivery. 22/8/29 headache, shivering, sickness and abdominal pain.

Admitted to hospital on the 4th day of the puerperium and 2nd day of disease. Temp. 101, pulse 128.

Clinical Notes: Abdomen: Fundus of uterus  $1\frac{1}{2}$  inches above the symphysis, firm, no tenderness. Cervix: anterior lip oedematous, a small sloughing area on the vaginal surface. Discharge from uterus blood stained and offensive. Vagina: appears normal. Perineum: lateral tear on the right side. No tenderness on palpation in the right and left iliac fossae.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = No casts, no pus cells, no organisms.

Uterine Culture = Non-haemolytic streptococci and diphtheroids.

Blood Picture = Erythrocytes = 3,100,000.

Haemoglobin = 50%. Colour

Index = .8. Leucocytes =

15,800. Polymorphs - 77%.

Lymphocytes = 16%. Large

mononuclears = 5%.

Eosinophils = 2%.

Treatment and Progress: Glycerine Treatment.

Femergin.

Temp. normal on day following admission, pulse 104.

On third day of admission temp. rose to 101, pulse 120.

Still blood stained discharge from uterus. Four days after admission temp. settled at 98.4 pulse became quieter, under 100, and patient had a normal convalescence.

Number of days in hospital = 19.

Number of days duration of

fever in hospital = 4.



Case 60.

Mrs. K. Aet 28 years. Multipara. Previous infectious diseases = Nil.

History: 20/8/29. Twins born, placenta removed manually, 50 c.c. antistreptococcal serum given intravenously and 50 c.c. antistreptococcal serum given intramuscularly. 26/8/29 Temp. 100, pulse 112.

Headache, offensive lochia.

Admitted to hospital on the 9th day of the puerperium and 3rd day of diseases. Temp. 99.4, pulse 112.

Clinical Notes: Faint urticarial serum rash on trunk and arms on admission. Abdomen: Fundus of uterus 1 inch above symphysis. No tenderness on palpation. No tenderness either in right or left iliac fossae. Cervix: no lacerations. Vagina and perineum = no lacerations present.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = No casts, no pus cells, no organisms.

Uterine Culture = a few non-haemolytic streptococci and staphylococci.  
(Albus)

Blood Picture = Erythrocytes = 2,960,000.

Haemoglobin = 46%. Colour

Index = .8. Leucocytes =

9,400. Polymorphs = 65%.

Lymphocytes = 26%. Large

mononuclears = 7%. Eosinophils

2%.

Treatment and Progress:     Glycerine Treatment.

Femergin. On the day after admission temp. 100.4, pulse 100. Then temp. was normal for three days but on the fourth rose to 100. Pulse quiet at 80. Temp. settled again for a few days but on the 8th day after admission rose to 102.8, pulse 120. Patient at this time complaining of pain and swelling of the wrist, shoulder and knee joint. Face a little swollen fauces red and congested. This was evidently a later serum reaction as pulse was good all along, never over 120. Eleven days after admission temp. became normal and patient made a good recovery.

Number of days in hospital = 25

Number of days duration of

fever in hospital               = 6.

Case 61.

Mrs. D. Aet 20 years. Primipara. Previous Infectious diseases = Typhoid Fever.

History: 16/8/29. Failed Forceps outside hospital. Mid-Forceps delivery effected in hospital and since then temp. irregular, e.g. 99.2, 99.7, Pulse 108 and 90. On 16/8/29 50 c.c. antistreptococcal serum given intramuscularly. 17/8/29. 25 c.c. anti-streptococcal serum given intramuscularly, also quinine bihydrochlor gr.  $\sqrt{V}$  intramuscularly. Abdominal pain and profuse offensive lochia.

Admitted to hospital on the 14th day of the puerperium and 14th day of disease. Temp. 99.6, Pulse 92.

Clinical Notes: Fading urticarial serum rash, on trunk, lower arms and thighs. Abdomen: Fundus of uterus  $2\frac{1}{2}$  inches above symphysis. No tenderness present. Cervix: no lacerations. Blood stained discharge from uterus. Perineum: deep lateral tear on the right side, sutures have been removed. Wound not purulent. Vagina: normal.

No tenderness on palpation in the right and left iliac fossae. Heart: faint mitral systolic murmur.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = No casts, no pus cells, no organisms.

Uterine Culture = Staphylococci and unidentified gram positive bacilli.

Blood Picture = Erythrocytes = 3,450,000.

Haemoglobin = 44%. Colour Index =

.6. Leucocytes = 8,200.

Polymorphs = 72%. Lymphocytes =

22%. Large Mononuclears = 4%.

Eosinophils = 1%. Basophils = 1%.

Treatment and Progress: Glycerine Treatment. Femer-  
gin. On the day following admission temp. was normal  
and remained so throughout convalescence.

Number of days in hospital = 13.

Number of days duration of

fever in hospital = 1.

Case 62.

Mrs. B.Q. Aet 21 years. Primipara. Previous Infectious Diseases = Measles, Chicken-pox.

History: 24/8/29. Low Forceps delivery. 27/8/29.

Rise of temp. and pulse with abdominal pain.

Admitted to hospital on the 6th day of the puerperium and 3rd day of disease. Temp. 99.2, Pulse 112.

Clinical Notes: Abdomen: Fundus of uterus  $1\frac{1}{2}$  inches above symphysis, firm no tenderness. Cervix: large four of five deep lacerations around the external, os, soft on palpation. Thickish inoffensive profuse red blood stained discharge from the uterus. Perineum: deep lateral tear on the left side. Sutures holding wound together. Wound not purulent. No tenderness on palpation in right and left iliac fossae.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = No casts, no pus cells, no organisms.

Uterine Culture = Haemolytic streptococci with some unidentified gram positive bacilli.

Blood Picture = Erythrocytes = 3,600,000.

Haemoglobin = 56%. Colour Index = .8. Leucocytes = 9,600.

Lymphocytes = 21%. Large mononuclears = 6%. Eosinophils = 2%. Basophils = 1%.

Treatment and Progress: 20 c.c. Scarlet Fever anti-

toxin on day of admission. Temp. 99 for 2 days following admission, then normal for remainder of convalescence. Pulse good and quiet.

One week after admission patient developed a slight serum rash on face, trunk and lower arms. Complaint at same time of pain and swelling of wrist joints.

Number of days in hospital = 19.

Number of days duration of

fever in hospital = 3.

Case 63.

Mrs. McV. Aet 30 years. Multipara. Previous Infectious Diseases = Measles.

History: 21/8/29. Normal Delivery, - right occipito-anterior. 23/8/29. Temp. 100, Pulse 104. 28/8/29. Temp. 102, Pulse 140. 29/8/29. Temp. 99.6, Pulse 114. Shivering, headache, lochia not markedly offensive.

Admitted to hospital on the 9th day of the puerperium and 7th day of disease. Temp. 99, Pulse 120.

Clinical Notes: Abdomen: Fundus of uterus just above the symphysis. Cervix: lying to the left of the mid-line and low down. One small laceration on edge of external os. Thick yellowish slightly offensive discharge from the uterus. Vagina and Perineum: no tears. No tenderness on palpation in the right and left iliac fossae.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = No casts, no pus cells, no organisms.

Uterine Culture = Staphylococci (albus) - These were definitely an accidental contamination.

Blood Picture = Erythrocytes = 4,000,000.  
Haemoglobin = 70%. Colour  
Index = .9. Leucocytes =  
10,000. Polymorphs = 70%.  
Lymphocytes = 22%. Large



mononuclears = 4%.

Eosinophils = 2%.

Treatment and Progress: Glycerine Treatment. Femer-  
gin. Temp. became 97 on day after admission, and  
patient made a very rapid recovery.

Number of days in hospital = 12.

Number of days duration of

fever in hospital = 1.

Case 64.

Mrs. A.W. Aet 24 years. Multipara. Previous Infectious Diseases = Nil.

History: 2/9/29. Baby born before arrival of Doctor or Midwife. 4/9/29. In the morning temp. 100, pulse 120 - evening Temp. 104.8, Pulse 124. Complaint of earache. Given 40 c.c. antistreptococcal serum intramuscularly. 6/9/29. Lochia offensive. Admitted to hospital on the 5th day of the puerperium and 3rd day of disease. Temp. 100. Pulse 120.

Clinical Notes: Abdomen: Fundus of uterus  $2\frac{1}{2}$  inches above the symphysis, firm, and not tender. Thickish red inoffensive lochia. Cervix: large with several lacerations. Some small cysts or nabothian follicles around the external os. Vagina: no lacerations. Perineum: no tear present. Lungs: some dullness on percussion over left base. On auscultation broncho-vesicular breathing with coarse râles and crepitations - definite congested base.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = No casts,  
epithelial cells, pus cells  
and B. Coli present.

Uterine Culture = Non-haemolytic Streptococci.

Blood Picture = Erythrocytes = 3,150,000.

Haemoglobin = 36%. Colour

Index = .6. Leucocytes =

9,200. Polymorphs = 79%.

Lymphocytes = 12%. Large  
mononuclears = 6%. Eosinophils  
3%.

Treatment and Progress: 50 c.c. antistreptococcal serum (puerperal) on day of admission. 50 c.c. antistreptococcal serum (puerperal) on day following admission. Temp. 102.4, Pulse 108. Glycerine Treatment. Femergin. Mist Pot Cit et Pot Bic. Temp. and pulse slowly dropped to normal - attained 5 days after Admission. Sputum examined for 7 consecutive days but no tubercle bacilli found. 11 days after admission Temp. 102, Pulse 112 - patient came out in a bright urticarial serum rash on the face, trunk and extremities. Temp. 101 and Pulse 100 for a further 4 days and then settled down. Convalescence uninterrupted. The B. Coli pyelitis however did not clear up but patient sent home with a letter to her own doctor regarding further treatment for the condition. Left base quite clear.

Number of days in hospital = 30.

Number of days duration of

fever in hospital = 10.

Case 65.

Mrs. D. Aet 25 years. Primipara. Previous Infectious Diseases = Scarlet Fever, Measles.

History: 27/8/29. Prolonged labour lasting 75 hours. Mid-forceps delivery - maternal distress. Since delivery irregular temp. 99.8 and pulse 100. Profuse offensive lochia.

Admitted to hospital on the 5th day of the puerperium and 5th day of disease. Temp. 100. Pulse 84.

Clinical Notes: Patient looks well. Pulse good, quiet. Abdomen: Fundus of uterus three inches above the symphysis and to the right of the mid-line. Tender on deep palpation. No pelvic tenderness. Cervix: small, firm, a few very small lacerations around the external os. Vagina = lacerated with bruised walls. Perineum: no tears. Offensive, fairly profuse, dark red discharge from the uterus. Heart: Faint mitral systolic murmur propagated towards the left axilla.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = No casts, no pus cells, no organisms.

Uterine Culture = Unidentified gram positive bacilli.

Blood Picture = Erythrocytes = 3,680,000.

Haemoglobin = 54%. Colour

Index = .7. Leucocytes =

12,800. Polymorphs = 82%.

Lymphocytes = 12%. Large mononuclears = 3%. Eosinophils = 3%.

Dick Test = Negative (5th day of disease).

Treatment and Progress: Glycerine Treatment.

Femergin. Temp. normal 2 days after admission. Pulse good all along. A case of mild infection. Convalescence uninterrupted.

Number of days in hospital = 17.

Number of days duration of

fever in hospital = 2.

Case 66.

Mrs. E. McL. Aet 21 years. Primipara. Previous Infectious Diseases = nil.

History: 9/9/29. Normal Delivery. Perineum torn, sutured. 17/9/29. Temp. 103.4. Pulse 130. Local stitch infection on perineum. Admitted to hospital on the 10th day of the puerperium and 2nd day of disease. Temp. 99.6, Pulse 112.

Clinical Notes: Abdomen: Fundus of uterus  $1\frac{1}{2}$  inches above the symphysis. Slight tenderness on palpation. Fairly profuse slightly offensive red discharge from uterus. Cervix: rather large, patulous os, excoriation around the external os. Perineum: right lateral tear which has been sutured in anterior part. Tear gaping posteriorly. Slight purulent discharge from the tear. Vagina: posterior vaginal wall slightly lacerated. No tenderness on palpation in the right or left iliac fossae.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = No casts, no pus cells, no organisms.

Uterini Culture = Non-haemolytic streptococci.

Blood Picture = Erythrocytes = 3,600,000.

Haemoglobin = 64%. Colour

Index = .9. Leucocytes =

12,200. Polymorphs = 72%.

Lymphocytes = 20%. Large

mononuclears = 5%. Eosinophils =  
2%. Basophils = 1%.

Treatment and Progress: 50 c.c. antistreptococcal  
serum (puerperal) on day of admission. Glycerine  
Treatment. Femergin.

Temp. and pulse settled down on the day following  
admission and the patient made an excellent recovery,

Number of days in hospital = 14.

Number of days duration of

fever in hospital = 1.



Case 67.

Mrs. A.B. Aet 27 years. Primipara. Previous Infectious Diseases = Measles.

History: 28/8/29. Forceps delivery. Perineum torn. 2/9/29. Temp; elevated. 11/9/29 Left Breast painful. Headache. Rigor. 20/9/29. Rigor Elevated temp. fast pulse.

Admitted to hospital on the 25th day of the puerperium and 20th day of disease. Temp. 103.4. Pulse 132.

Clinical Notes: Abdomen: Fundus of uterus just above the symphysis. Tenderness on palpation. Thick yellowish slightly offensive discharge from the uterus. Cervix: large and soft, congested. No lacerations. Vagina: normal. Perineum: small tear present. Pain on palpation over right and left broad ligaments, more marked on the left side just over site of left fallopian tube.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = No casts, no pus cells, no organisms.

Uterine Culture = Gonococci. A few gram positive diplococci also present.

Blood Picture = Erythrocytes = 3,800,000.  
Haemoglobin = 51%. Colour Index = .7. Leucocytes = 25,000. Polymorphs = 81%. Lymphocytes = 8%. Large

mononuclears = 7%. Eosinophils =  
4%.

Treatment and Progress: Glycerine Treatment and  
Femergin.

Temp. normal on the 3rd and 4th days of admission.  
Pulse quiet 88. On 4th day of admission patient  
had a rigor. Temp. 103, Pulse 136. For two days  
after this temp. was intermittent (98.4 to 101 and  
102). Temp. then became normal, and pulse quietened  
down to a normal rate.

Number of days in hospital = 29.

Number of days duration of  
fever in hospital = 6.

Case 68.

Mrs. C. Aet 26 years. Primipara. Previous Infectious Diseases = Measles, Chicken-pox.

History: 13/8/29. Normal Delivery. 21/8/29.

Headache, vomiting, shivering. Admitted to hospital on the 14th day of the puerperium and 6th day of disease. Temp. 102.8, Pulse 120-128.

Clinical Notes: Abdomen: Fundus of uterus one inch above symphysis. No pain or tenderness on palpation. No tenderness over the right or left broad ligaments. Cervix: erosion around the external os. Thin yellowish inoffensive discharge from uterus. Vagina: no lacerations. Perineum: small mid-line tear.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = No casts, no pus cells, no organisms.

Uterine Culture = Haemolytic streptococci, also a few staphylococci (albus).

Blood Picture = Erythrocytes = 2,350,000.

Haemoglobin = 32%. Colour

Index = .7. Leucocytes =

8,400. Polymorphs = 78%.

Lymphocytes = 18%. Large mononuclears = 2%.

Eosinophils = 1%. Basophils = 1%.

Dick Test = Negative (6th day of disease).

Treatment and Progress: Glycerine Treatment. Femergin.

For two days following admission temp; intermittent (97 in mornings and 103 in evenings), pulse 120.

On 3rd day of admission patient had a rigor Temp.

101, Pulse 128. Given 20 c.c. of Scarlet Fever antitoxin and put on quinine bihydrochloride gr.  $\sqrt{v}$  (intramuscularly) for 4 days.

Patient ran an intermittent temp. as above till the 8th day of admission, when pulse and temp. settled.

On the 24th day of admission temp. 99.2, and on 25th day temp. 100.2, pulse 98. On 27th day of admission an abscess in the right thigh at site of quinine injections was incised.

Patient then had a long but uninterrupted convalescence

This patient on admission to hospital showed slight mental symptoms, was very restless and loquacious.

However, after 24 hours in hospital patient quietened down and showed no further mental symptoms.

Number of days in hospital = 52.

Number of days duration of

fever in hospital = 11.

Case 69.

Mrs. A.B. Aet 24 years. Primipara. Previous Infectious Diseases = Scarlet Fever.

History: Pre-eclamptic toxæmia. 29/9/29. Normal delivery. 4/10/29. Headache, shivering, elevated temp. Lochia creamy and offensive. Admitted to hospital on the 9th day of the puerperium and 4th day of disease. Temp. 98, Pulse 100.

Clinical Notes: Abdomen: uterus in normal position. No tenderness on palpation. No tenderness in the Iliac fossae. Cervix: very swollen and oedematous. Anterior and posterior lips lacerated. Creamy and slightly offensive discharge from the uterus, moderate amount in quantity. Vagina and Perineum: nothing abnormal to note.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = No casts, Pus  
Cells +++. B. Coli present.

Uterine Culture = Unidentified gram positive bacilli.

Blood Picture = Erythrocytes = 4,300,000.  
Haemoglobin = 65%. Colour  
Index = .7. Leucocytes =  
9,200. Polymorphs = 64%.  
Lymphocytes = 26%. Large  
mononuclears = 4%. Eosino-  
phils = 4%. Basophils = 2%.

Dick Test = Negative (4th day of disease).

Treatment and Progress: Glycerine Treatment. Femer-  
gin. Mist Pot Cit et Sod Bic. On day after ad-  
mission temp. 99, Pulse 100.

Convalescence normal.

Number of days in hospital = 20.

Number of days duration of fever

in hospital = 1.

Case 70.

Mrs. M. McL. Aet 26 years. Multipara. Previous Infectious Diseases = Scarlet Fever.

History: 30/9/29. Normal Delivery. 3/10/29. Shivering, Headache. 5/10/29. Headache, Rigor.

Admitted to hospital on the 8th day of the puerperium and 5th day of disease. Temp. 100, Pulse 110.

Clinical Notes: Abdomen: Fundus of uterus just above the symphysis. No tenderness on palpation. Cervix: swollen and oedematous. Both lips show large lacerations. Brownish discharge from the uterus, foetid smell. Vagina: walls a little swollen. One or two very small lacerations. Perineum: no laceration. No tenderness in the iliac fossae.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = No casts, Pus

Cells +++. B. Coli +++. Epithelial cells.

Uterine Culture = Non-haemolytic streptococci.

(Streptococcus Salivarius).

Blood Picture = Erythrocytes = 4,200,000.

Haemoglobin = 60%. Colour

Index = .7. Leucocytes =

17,400. Polymorphs = 72%.

Lymphocytes = 21%. Large

mononuclears = 5%. Eosinophils = 2%.

Dick Test = Negative (5th day of disease ).



Treatment and Progress: Glycerine Treatment. Femer-  
gin. Mist Pot Cit et Sod Bic. Temp. became normal  
on day after admission and remained so. The Glycerine  
Treatment cleared up very well the local uterine con-  
dition.

Patient made a normal good recovery, the pyelitis clear-  
ing up satisfactorily.

Number of days in hospital = 18.

Number of days duration of

fever in hospital = 1.

Case 71.

Mrs. E. McN. Aet 21 years. Primipara. Previous Infectious Diseases = Measles.

History: 24/7/29. ? Normal delivery (still birth) 27/7/29 shivering, headache and abdominal pain.

Admitted to hospital on the 6th day of the puerperium and 3rd day of disease. Temp. 100.4, Pulse 130.

Clinical Notes: Patient very pale and anaemic. Abdomen: Fundus of uterus situated on a level with the umbilicus but to the right of the mid line, tenderness on palpation. Foul smelling dark coloured discharge from uterus. Cervix: lacerated and sloughing.

Vagina: both walls show some laceration. Perineum: deep lateral tear on the right side which has not been sutured. Anterior wall of the rectum bulging into the tear but is not lacerated. Incontinence of faeces present. Lungs: bronchitis present.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = Granular casts, some hyaline casts, epithelial cells, pus cells +++. Streptococci +++. Staphylococci ++. B. Coli ++.

Uterine Culture = Haemolytic streptococci and staphylococci (albus).

Blood Picture = Erythrocytes = 2,800,000.

Haemoglobin = 32%. Colour Index = .7. Leucocytes = 28,000.

Polymorphs = 87%. Lymphocytes =

10%. Large mononuclears =

2%. Eosinophils = 1%.

Treatment and Progress: 20 c.c. Scarlet fever antitoxin on day of admission.

20 c.c. Scarlet fever antitoxin on day after admission. Temp. 99.8, pulse 120 to 136.

Glycerine Treatment. Femergin. Metramine Capsules 2 t.i.d. Non-protein diet.

For one week after admission temp. continued at 99.5 to 100, pulse 120. On 7th day of admission urea concentration test = 1.5. Eight days after admission 1 egg daily added to diet. Patient expectorating sputum which although examined on 7 consecutive days revealed no tubercle bacilli. For the following four weeks temp. was intermittent at 96.4, and 100 or 101, pulse 120 to 140. A catheter specimen of urine was taken twice in each week and I found granular and hyaline casts. Numerous pus cells. Epithelial cells and numerous B. Coli. At the end of the fourth week the urea concentration test was down to 1 but patient was very well in herself and the kidneys were secreting plenty of urine. Blood pressure, systolic - 116, diastolic - 102, satisfactory. Temp. occasionally was rising to 102 and 103. About the end of the fourth week after admission patient developed consolidation at the left base. This settled down very nicely. A Widal test taken about this time was negative. At the beginning of patient's sixth week in hospital temp. became normal (steady), pulse 96.

Urea Concentration test just over 1. Urine as previously. For a further two weeks the temp. continued at normal, the pulse being very quiet and satisfactory, and although the Urea Concentration test was still under 2 patient seemed much improved.

A catheter specimen of urine at this time showed no casts, numerous pus cells and numerous B. Coli. At the end of another week the Urea Concentration test was quite satisfactory and patient was allowed up out of bed. After another week had passed by patient was allowed to proceed home in quite good health although her doctor was informed to look after her chronic pyelitis.

Number of days in hospital = 69.

Number of days duration of

fever in hospital = 34.

Case 72

Miss J.F. Aet 28 years. Primipara. Previous Infectious Diseases = Measles.

History: 8/11/29. Normal Delivery. Child still born. 10/11/29 Headache and Shivering.

Admitted to hospital on the 6th day of the puerperium and 4th day of disease. Temp. 98.8, Pulse 124.

Clinical Notes:

Patient looks well.

Abdomen: No tenderness present. Fundus of uterus not palpable. Cervix: nothing abnormal to note.

Vagina and Perineum: no lacerations. Lochia slight in amount, inoffensive, appears almost normal in nature.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = No casts, no pus cells, no organisms.

Uterine Culture = Non-haemolytic streptococci.  
(Streptococcus Faecalis).

Blood Picture = Erythrocytes = 3,800,000.

Haemoglobin = 76%. Colour Index = 1.  
Leucocytes = 10,000. Polymorphs = 80%. Lymphocytes = 10%  
Large mononuclears = 6%. Eosinophils = 4%.

Dick Test = Negative (4th day of disease).

Treatment and Progress: Femergin. Bland's Pills, etc.

The infection in this case was apparently of a very mild nature. Patient made a very quick recovery.

Number of days in hospital = 15.

Number of days duration of

fever in hospital = 0.

Case 73.

Mrs. I.S. Aet 33 years. Multipara. Previous Infectious Diseases = nil.

History: 29/10/29. Labour induced for contracted pelvis. 30/10/29. Pulse and temp. raised. Baby died - patient very upset. Temp. 103, Pulse 100. 31/10/29 Temp. 104.2, pulse 132. Lochia inoffensive. Admitted to hospital on the 3rd day of the puerperium and 2nd day of disease. Temp. 103, Pulse 124.

Clinical Notes: Patient complains of malaise and a feeling of tiredness. No headache, rigors, etc.

Abdomen: Fundus of uterus on a level with umbilicus - large and firm, but tender on palpation. Some tenderness also present low down in the right iliac fossa.

Cervix: Small recent tear of anterior lip present.

A split is also present on the lateral aspects of the cervix - evidently an old standing laceration.

Slight yellowish discharge from the uterus, not very offensive or copious in amount. Vagina: tear present in the left lateral wall. Vulva: scar of an old standing tear noted. No recent laceration.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = No Casts, Pus

Cells +++, B. Coli +++.

Uterine Culture = B. Coli.

Blood Picture = Erythrocytes = 3,730,000.

Haemoglobin = 65%. Colour

Index = .8. Leucocytes = 10,600



Polymorphs = 82%. Lymphocytes =  
16%. Large Mononuclears = 1%.  
Eosinophils = 1%.

Dick Test = Negative (2nd day of disease).

Treatment and Progress: Glycerine Treatment.

Femergin. Mist. Pot Cit et Sod Bic.

Temp. fell by lysis and was normal on the 3rd day  
of admission. Pulse 88. Except for one slight flick-  
er of temp. 7 days after admission temp. remained  
normal and patient made an excellent recovery. The  
B. Coli Bacilluria cleared up satisfactorily.

Number of days in hospital = 24.

Number of days duration of

fever in hospital = 3.

Case 74

Mrs. J.B. Aet 21 years. Primipara. Previous Infectious Diseases = Measles, Whooping Cough.

History: 26/10/29. Frank Breech impacted in the cavity. Extraction with double episiotomy. Patient collapsed after delivery. Intravenous gum saline solution. 50 c.c. antistreptococcal serum given intramuscularly. 27/10/29 25 c.c. antistreptococcal serum given intramuscularly. 28/10/29 (evening) Temp. 104, Pulse 116. 29/10/29 Temp. 102, Pulse 116. 30/10/29 Temp. 101, Pulse 116. Lochia offensive. Admitted to hospital on the 5th day of the puerperium and 3rd day of disease. Temp. 100.4, Pulse 120.

Rash: Urticarial rash on face, trunk and extremities.

Clinical Notes: Abdomen: Fundus of uterus 2 inches below umbilicus. No tenderness on palpation. No tenderness elsewhere in abdomen. Cervix: Red and inflamed. On the right side of the anterior lip there is a small tear. Slight discharge from the uterus, not copious in amount, inoffensive. Vagina: walls congested and show small lacerations. Perineum: Two large episiotomy wound. Discharge of pus from both. Heart: systolic murmur at mitral area propagated into the left axilla and upwards towards manubrium sterni. Pulmonary second sound accentuated.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = Urates ++, No casts. A few pus cells and B. Coli.

Uterine Culture = Haemolytic Streptococci  
(Streptococcus Pyogenes) and  
Enterococci.

Blood Picture = Erythrocytes = 4,240,000.  
Haemoglobin = 40%. Colour Index = .48. Leucocytes = 22,600,  
Polymorphs = 68%. Lymphocytes = 18%. Large mononuclears = 11%.  
Eosinophils = 2%. Basophils = 1%.

Dick Test = Negative (3rd day of disease).

Treatment and Progress: Glycerine Treatment.

Femergin. Mist Pot Cit et Sod Bic. Acid Sodium  
phosphate and Hexamine - later.

For six days following admission temp. kept  
swinging between 100-102 and 98.4. Pulse about  
110 to 116. The Temp. settled down. Pulse quiet.  
Patient however made a good recovery. The local  
condition healing very well and the urinary infection  
clearing up satisfactorily.

Number of days in hospital = 32.

Number of days duration of  
fever in hospital = 7.

Case 75.

Mrs J.A. Aet. 23 years. Multipara. Previous Infectious Diseases - nil.

History:- 18/11/29. Forceps Delivery. 20/11/29.

Elevation of temperature. Headache. Admitted to hospital on the 4th day of the puerperium and 2nd day of disease. Temp. 100. Pulse 128.

Clinical Notes:- Abdomen - Fundus of uterus not palpable.

Very marked tenderness over its site.

Tenderness also on palpation over the right and left broad ligaments.

Cervix:- oedematous and congested. Shows lacerations. Blood stained offensive discharge from the uterus. Vagina and Perineum - no lacerations.

Blood Culture - Negative.

Wassermann - Negative.

Catheter Specimen of Urine - No Casts. No pus cells. No Organisms.

Uterine Culture - Non-Haemolytic Streptococci  
(Streptococcus Faecalis)

Blood Picture - Erythrocytes - 3,800,000. Haemoglobin - 64%. Colour Index - .8  
Leucocytes - 17,200. Polymorphs - 82%. Lymphocytes - 12%. Large Mononuclears - 5%. Eosinophils - 1%

Dick Test - Negative (2nd day of disease).

Treatment and Progress.

Glycerine Treatment. Femergin.

Patient /

Patient ran a remittent temperature for about a week after admission. On the morning of the fourth day of admission patient had a rigor - temp. 104.6. Apart from that morning patient had no rigors - temp. usually 99 to 101. Pulse 100 to 110.

On the tenth day of admission temperature settled at normal - pulse 80 to 90. The local condition improved wonderfully under Glycerine treatment - no discharge from uterus ten days after admission. Patient made an excellent recovery.

Number of days in hospital ..... 27

Number of days duration of fever  
in hospital ..... 9.

Case 76.

Mrs H. Aet. 31 years. Multipara. Previous Infectious Diseases - Scarlet Fever, Chicken-pox, Measles.

History:- 16/11/29. Miscarriage (5th month). 18/11/29 Headache, Shivering, Vomiting. Admitted to hospital on the 5th day of the puerperium and 3rd day of disease. Temp. 102.8. Pulse 104.

Clinical Notes:- Abdomen - Fundus of uterus midway between symphysis and umbilicus, tender on palpation. No tenderness over the right of left Broad ligaments. Cervix - slightly congested and swollen. No lacerations. Yellowish offensive discharge from the uterus, fairly copious in amount. Vagina - No lacerations. Perineum - No tears. Blood Culture - Negative. Wassermann - Negative. Catheter specimen of urine - No Casts. Pus cells +++. Streptococci, Staphylococci and some gram positive bacilli. Uterine Culture - Haemolytic Streptococci. (Streptococcus Haemolyticus III and Enterococci. Blood Picture - Erythrocytes - 3,100,000. Haemoglobin - 54%. Colour Index - .8. Leucocytes - 13,200. Polymorphs - 78%. Lymphocytes - 13%. Large mononuclears - 6%. Eosinophils - 2%. Basophils - 1%. Dick Test - Negative (3rd day of disease).

Treatment /

Treatment and Progress - Glycerine Treatment.

Femergin. Metramine capsules. Patient ran a swinging temperature for eleven days. Under the glycerine treatment the discharge from the uterus ceased after 7 to 8 days, and the patient made excellent progress. The urinary condition cleared up very well after treatment with the metramine capsules.

Number of days in hospital ..... 28

Number of days duration of fever  
in hospital ..... 11.



Case 77.

Mrs I.G. Aet. 22 years. Primipara. Previous In:  
fectious Diseases - Whooping-Cough, Mumps

History:- 28/11/29. Forceps Delivery (Twins). 4/11/29  
Headache, Shivering, Rigor. Admitted to hospital  
on the 12th day of the puerperium and 5th day of  
disease. Temp. 103.6. Pulse 130.

Clinical Notes:- Face pale and anaemic. Extreme pallor  
of mucous membranes. Abdomen:- Fundus of uterus  
just palpable above the symphysis. No rigidity or  
tenderness in any situation. Cervix:- lacerated.  
Stringy purulent discharge from the uterus.  
Vagina - irregular tear to the right side. Peri:  
neum - no tear.  
Heart:- pulse rate rapid. Blowing systolic murmur  
heard in pulmonary and tricuspid areas.  
Blood Culture - Negative.  
Wassermann - Negative.  
Catheter specimen of urine - No Casts, some pus  
cells, and B.Coli present.  
Uterine Culture - Non-haemolytic streptococci  
(Streptococcus Faecalis).  
Blood Picture - Erythrocytes - 1,710,000. Haemo:  
globin - 20%. Colour Index - .6.  
Leucocytes - 18,600. Polymorphs - 84%. Lympho:  
cytes - 12%. Large mononuclears - 3%.  
Eosinophils - 1%.  
Dick Test - Negative (5th day of disease).

Treatment and Progress:- Glycerine Treatment. Feme:

gin. Mist.Pot.Cit. et Sod.Bic.. For nine days following admission patient ran an irregular swinging temperature - between 102, 101 and 99. Pulse averaging 112 to 120. Temperature then settled, the local condition clearing up very well. Except for rises of temperature to 102 and 100 on the 17th and 18th days of admission, temperature remained normal and the pulse quietened down. Patient made a good recovery. but was still convalescent when she left hospital as she still had a secondary anaemia. The Red Blood Cell count, however, before discharge had come up from 1,710,000 to 3,000,000.

Number of days in hospital ..... 40

Number of days duration of fever  
in hospital ..... 12.

Case 78

Mrs A.P. Aet. 32 years. Primipara. Previous Infectious Diseases: - Measles, Mumps, Diphtheria.

History: - 7/11/29. Delivery - impacted breech 9/11/29 Temperature elevated. 12/11/29. Headache, Shivering, Rigor. Admitted to Hospital on the 6th day of the puerperium and 4th day of disease. Temp. 100. Pulse 144.

Clinical Notes: - Patient pale and anaemic.

Abdomen - Fundus of uterus below umbilicus, soft and tender on palpation. Tenderness on pressure in the right iliac fossa. Cervix - swollen and congested. No apparent tear. Very little discharge from the uterus. No offensive odour.

Vagina and Perineum - Tear of the posterior vaginal wall to the right side extending into the perineum and up to the anal Margin.

Blood Culture - Negative.

Wassermann - Negative.

Catheter specimen of urine - No Casts, a few pus cells. Streptococci +++.

Uterine Culture - Haemolytic Streptococci (Streptococcus Pyogenes).

Blood Picture - Erythrocytes - 2,400,000. Haemoglobin - 35%. Colour Index - .7. Leucocytes - 16,800. Polymorphs - 78%. Lymphocytes - 17%. Large mononuclears - 1%. Eosinophils - 3%. Basophils - 1%

Dick Test - Negative (4th day of disease).

Treatment and Progress. Glycerine Treatment. Femer:  
gin. Caprokol 2 capsules thrice daily (after two  
days increased to 3 capsules thrice daily).

For a fortnight patient ran an intermittent  
temperature (swinging between 98 and 101 or 102. On  
account of the tenderness in the right iliac fossa  
frequent hot vaginal douching was carried out, as  
some inflammation in the pelvic cellular tissue on  
the right side was suspected.

After a fortnight, however, the temperature  
settled and the patient made an excellent recovery.  
The perineum and vagina healed well, but scars ap:  
peared weak.

The urinary infection cleared up very well  
under caprokol.

Number of days in hospital ..... 37

Number of days duration of fever in  
hospital ..... 14.

PELVIC INFLAMMATION - including - Pelvic Cellulitis.

Pelvic Peritonitis.

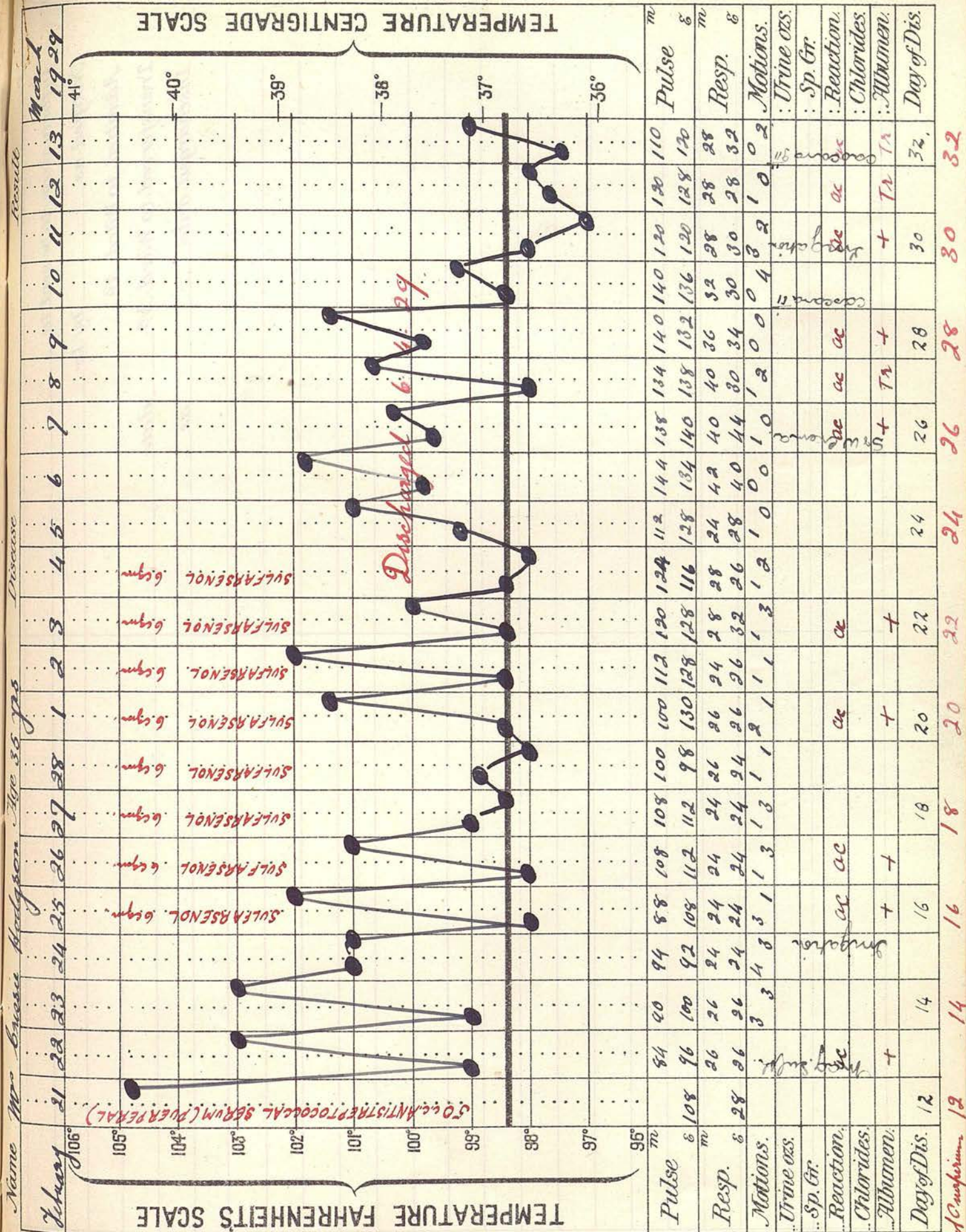
Thrombophlebitis of Pelvic Veins

Phlegmasia Alba Dolens.



## TEMPERATURE FAHRENHEIT'S SCALE

## TEMPERATURE CENTIGRADE SCALE

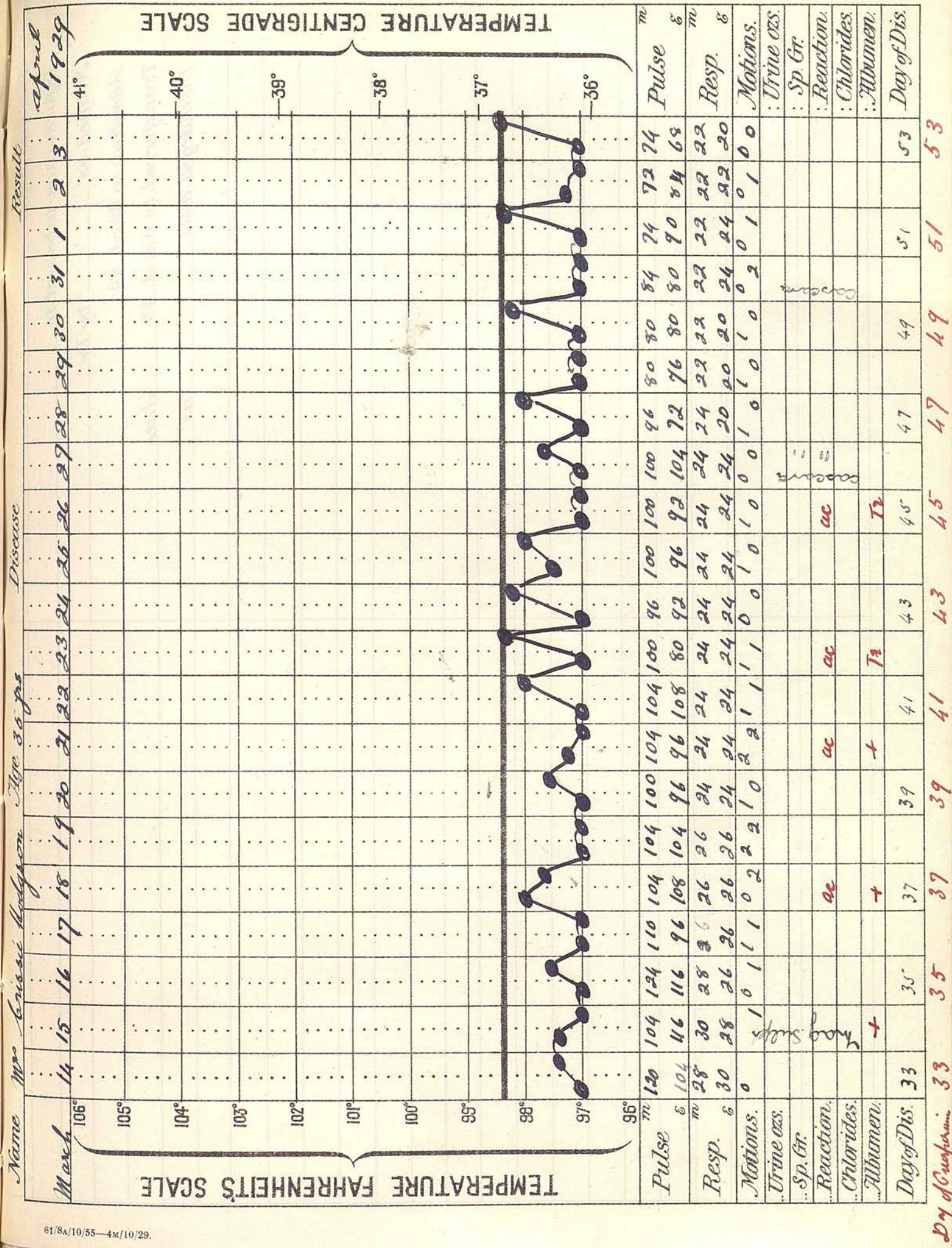








Patients Name



Patient's Name:

*Information to be sent to:*

Notified as \_\_\_\_\_ by Dr. \_\_\_\_\_

Admitted to Ward No.

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as \_\_\_\_\_

Patient's Name	
Information to be sent to	
Notified as	by Dr.
Admitted to Ward No.	date
Transferred to Ward No.	date
Discharged date	as







Case 79

Mrs. C.H. Aet 35 years. Multipara. Previous Infectious Diseases = Nil.

History: 10/2/29. Twins born - normal delivery - elevated temp. 12/2/29. Mental symptoms, hallucinations. 15/2/29 Headache.

Admitted to hospital on the 12th day of the puerperium and 12th day of disease. Temp. 105, Pulse 108.

Clinical Notes: Abdomen: no rigidity but tenderness on pressure below umbilicus and in both iliac fossae. Fundus of uterus 2 inches above symphysis. Cervix: badly lacerated. Vagina and Perineum: nil to note. Thick yellowish discharge from the uterus.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = No casts, no pus cells, no organisms.

Uterine Culture = Not taken.

Blood Picture = Erythrocytes = 3,130,000  
Haemoglobin = 58%. Colour  
Index = .9. Leucocytes =  
20,400. Polymorphs = 82%.  
Lymphocytes = 16%. Large  
mononuclears = 2%.  
Eosinophils = 1%.

Treatment and Progress: 50 c.c. antistreptococcal serum (puerperal) on day of admission. Glycerine Treatment. Femergin. Sulfarsenol 6 cgms. daily for



8 days ( 48 cgms. in all ).

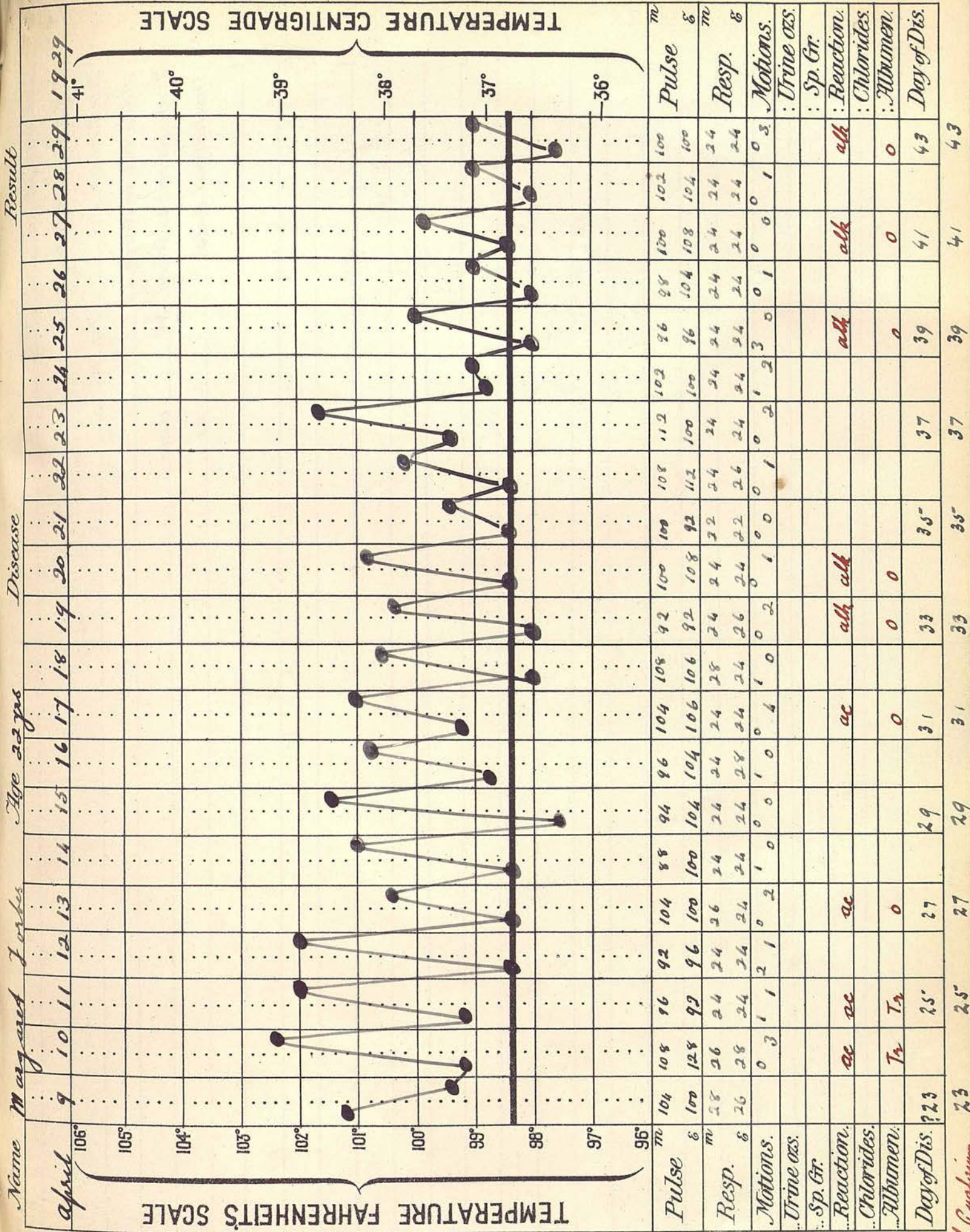
For 3 days following admission patient ran a swinging temp. between 103 and 99 with pulse of 100. Patient had some diarrhoea.

Three days after admission patient complained of deep seated pain in both iliac fossae. On examination marked tenderness, pelvic cellulitis on both sides. For 14 further days temp. kept swinging between 100, 102 and 98.4. Pulse rapid - 120-130. After almost 3 weeks the temp. settled at normal, the pulse rate however was inclined to be rather fast for another fortnight (100 to 104). Patient made a good recovery - the cellulitic condition in the broad ligaments clearing up very well.

Number of days in hospital = 45.

Number of days duration of

fever in hospital = 17.





Patient's Name \_\_\_\_\_

Information to be sent to \_\_\_\_\_

Notified as \_\_\_\_\_ by Dr \_\_\_\_\_

Admitted to Ward No.

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as \_\_\_\_\_

[illegible]







Case 80

Miss M.F. Aet 22 years. Primipara. Previous Infectious Diseases = unknown.

History: Amenorrhoea for  $3\frac{1}{2}$  months, then profuse vaginal bleeding. 18/3/29. Curettage performed in Infirmary - since then ran a high temp. on and off for 10-12 days.

Admitted to hospital on the 23rd day of the puerperium and ? 23rd day of disease. Temp. 101.2, Pulse 104.

Clinical Notes: Patient pale and anaemic. Abdomen: No rigidity. Fundus of uterus not palpable, but marked tenderness over its site. Tenderness on deep pressure in the iliac fossae. Liver and spleen not enlarged. No uterine discharge. Bimanual examination reveals cellulitic condition in both Broad ligaments. Cervix: Vagina and Perineum: not examined by the naked-eye.

Blood Culture = no report. Culture was removed from the incubator by mistake.

Wassermann = Negative.

Catheter specimen of urine = Epithelial Cells, no casts, pus cells, no organisms.

Uterine Culture = Non-haemolytic streptococci.

Blood Picture = Erythrocytes = 2,950,000.

Haemoglobin = 55%. Colour Index = .9. Leucocytes = 17,800.

Polymorphs = 80%. Lymphocytes = 19%. Eosinophils = 1%.

Treatment and Progress: Glycerine ichthyol tampons.

Hot douches. Radiant heat to pelvis. Stock mixed vaccine biweekly. Mist Pot Cit et Sod Bic. For three weeks patient had a remittent and intermittent temp. with pulse of 100 to 110.

On 13th day in hospital patient feeling much better. On examination there is a patch of dullness below the angle of the right scapula. Vocal fremitus and vocal resonance normal, vesicular breathing, but a few fine crepitations heard on inspiration.

On 16th day in hospital patient complained of "stitch-like" pain in the left side on turning in bed. Burning pain before, during, and after micturition, some frequency. Slight tenderness over the left kidney.

Patient constipated for the last day or two. Patient suffering from cystitis as well as a mild pyelitis. After three weeks patient settled down very nicely, the pulse quietening down and her general condition vastly improving. The pelvic cellulitis also cleared up very satisfactorily.

Number of days in hospital = 43.

Number of days duration of  
fever in hospital = 26.



Result

Disease

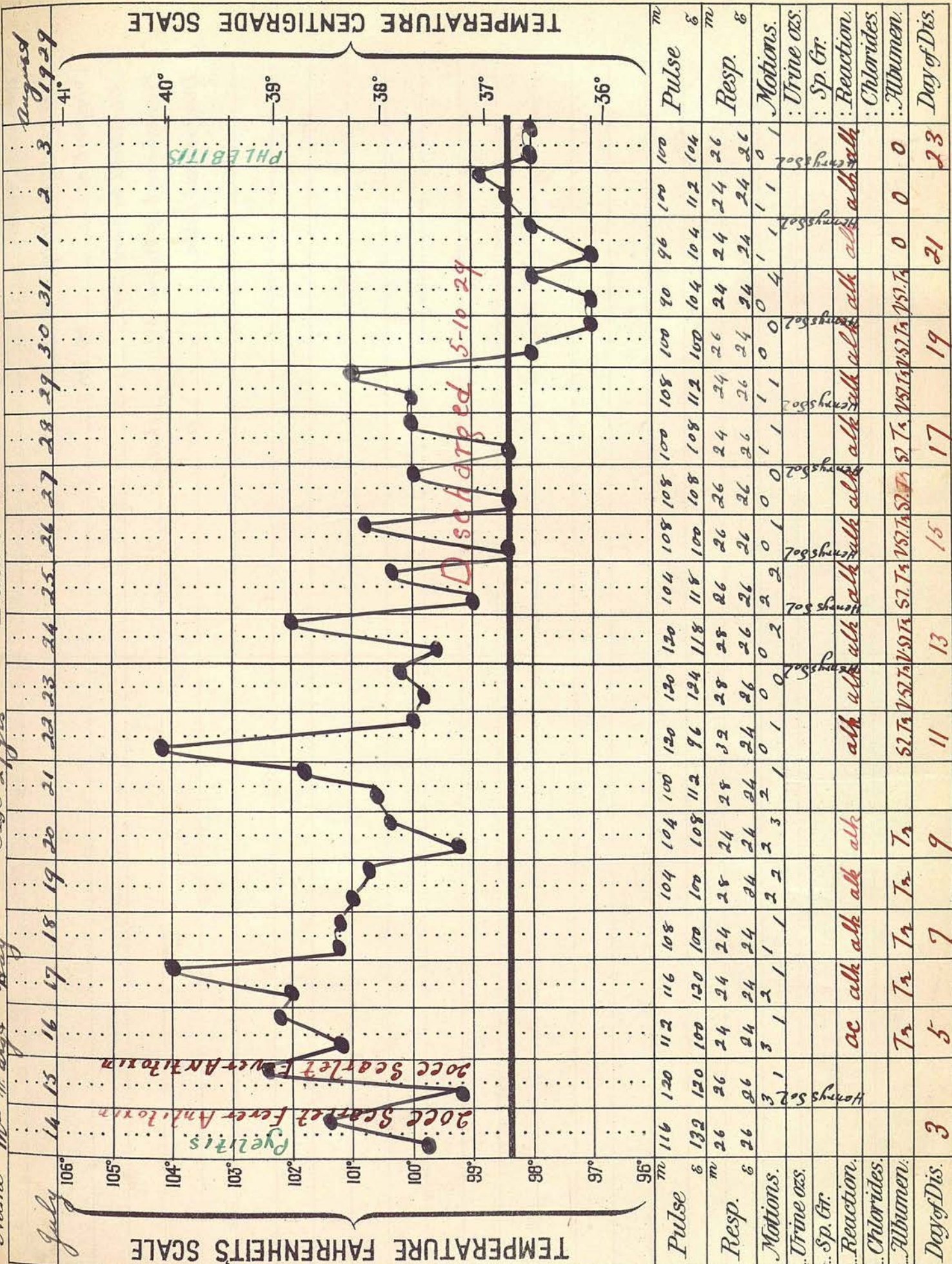
Age 29 yrs

May

Name Mrs M. Argal

TEMPERATURE FAHRENHEIT'S SCALE

TEMPERATURE CENTIGRADE SCALE









Name

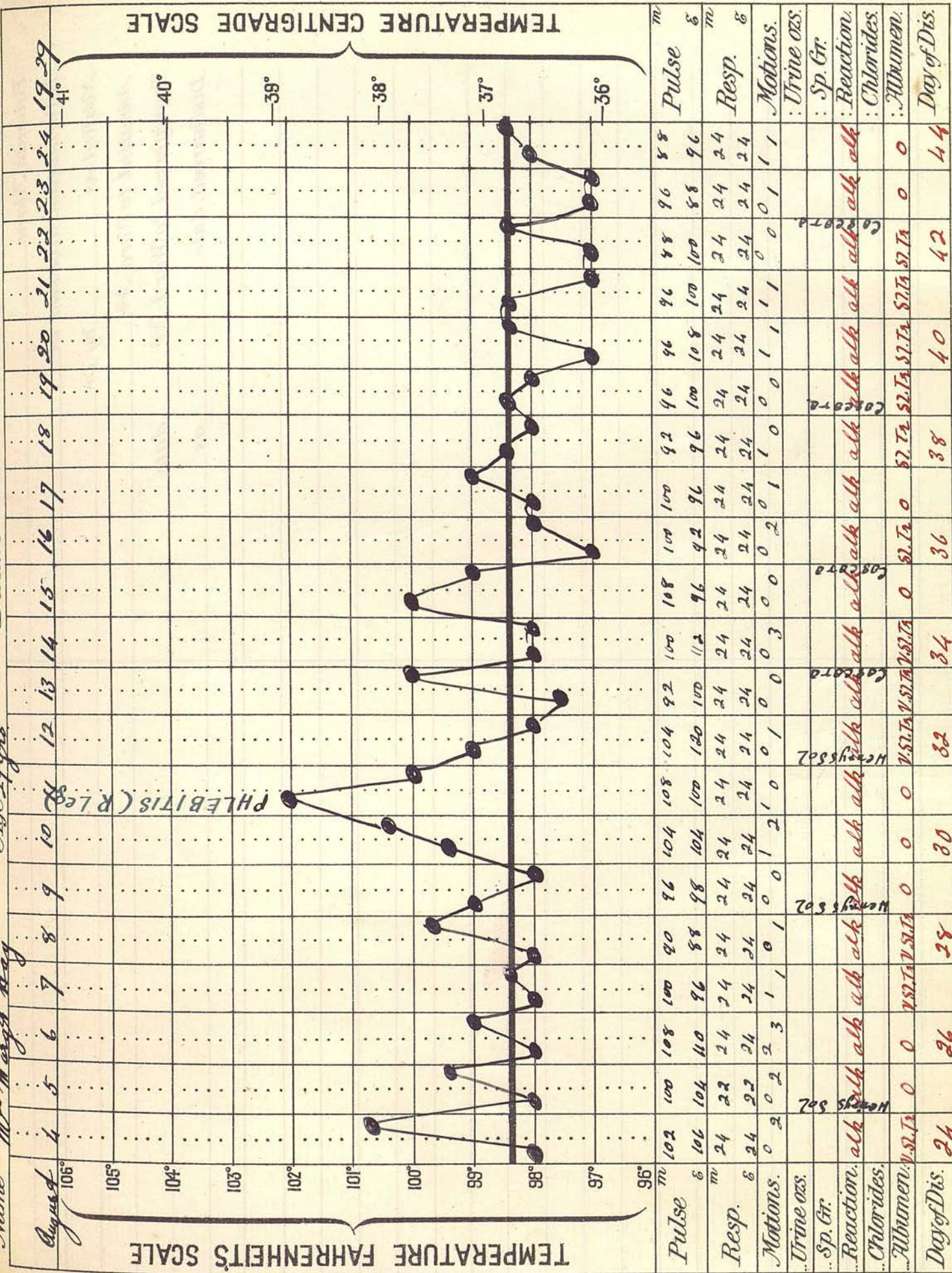
Age 24 yrs

Disease

Result

Result

Result





*Patient's Name:*

Information to be sent to:

Notified as \_\_\_\_\_ by Dr.

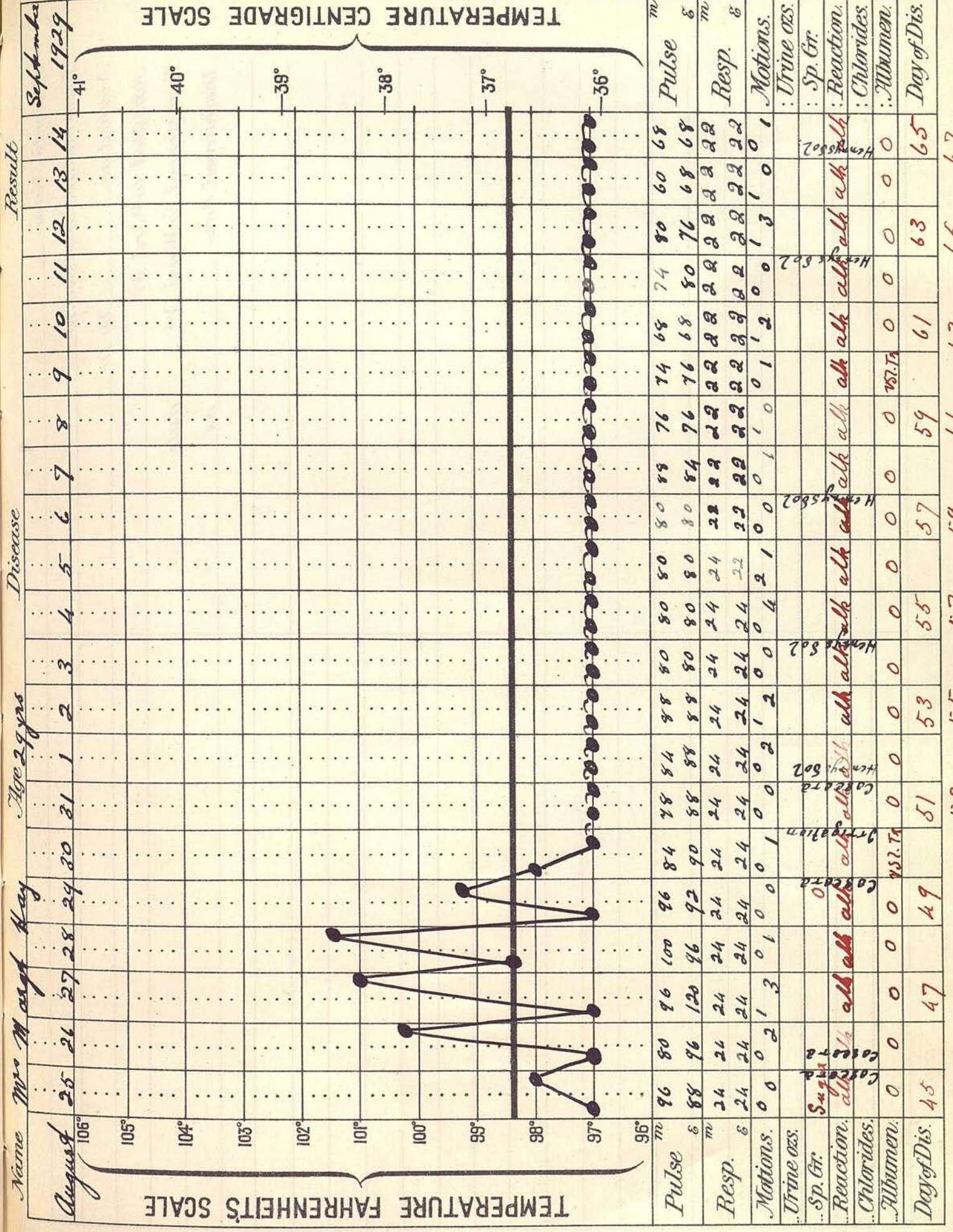
Admitted to Ward No.

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as \_\_\_\_\_

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. A vertical margin line is present on the left side, creating a narrow left margin. The paper appears slightly aged or off-white. There are some faint, dark spots or smudges scattered across the surface, particularly near the center and bottom right. The overall appearance is that of a clean but slightly worn piece of stationery.







Patient's Name

Information to be sent to

Notified as by Dr

Admitted to Ward No

Transferred to Ward No date

Discharged date as



Day of Proc.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
May of Proc.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31





Case 81.

Mrs. M.H. Aet 29 years. Primipara. Previous Infectious Diseases = Mumps, measles, chicken-pox.

History: 10/7/29. Partial Placenta Praevia - packed and leg brought down. Child born dead. Post-partum haemorrhage followed. Intravenous gum acacia given along with 25 c.c. antistreptococcal serum. 25 c.c. antistreptococcal serum also given intramuscularly. 11/7/29. 25 c.c. antistreptococcal serum given intramuscularly. 12/7/29. Temp. 100. Pulse 100. Shivering. Admitted to hospital on the 5th day of the puerperium and 3rd day of disease. Temp. 101.4, Pulse 132.

Clinical Notes: Patient looks ill. Face extremely pale and anaemic. Abdomen: Fundus of uterus one inch below umbilicus. Uterus enlarged and very tender on pressure. Yellowish blood stained discharge from the uterus. Cervix: anterior lip very oedematous - lacerated. Vagina: laceration on posterior wall. Perineum: deep lateral tear on the left side extending into the posterior vaginal wall. Sutures which have been inserted are lax and cutting through, purulent discharge from the tear. Firm mass palpable on the left side of the uterus low down in the left iliac fossa. Very tender to the touch - Pelvic Cellulitis and thrombo-phlebitis.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = Some broken



casts, Epithelial cells. Numerous pus cells and gram positive cocci some in short chains.

Uterine Culture = Not taken.

Blood Picture = Erythrocytes = 1,200,000.

Haemoglobin = 25%. Colour Index = 1.

Leucocytes = 27,000. Polymorphs = 81%. Lymphocytes = 16%. Large mononuclears = 2%. Eosinophils = 1%.

Blood Film shows normoblasts, poikilocytosis, polychromasia, anisocytosis, and crenation of red cells.

Treatment and Progress: 20 c.c. Scarlet Fever Antitoxin on day of admission. 20 c.c. Scarlet Fever Antitoxin on day following admission. Femergin. Glycerine Treatment Mist Acid Sodium phosphate. Hexamine gr.  $\bar{x}$  t.i.d. Hot douches. Glycerine and Ichthyol tampons. Radiant heat to pelvis. Temp. continued (Temp. reaching 104 (Pulse 120) on 4th day of admission) till 15th day of admission when it fell to 97.

On 21st day of admission patient developed phlebitis of the left leg and the temp. commenced to swing again.

Phlebitis of the right leg developed on the 29th day of admission (Temp. 102).

About 5 days later the temp. settled, the pulse also

slowing down a little. At the beginning of the 6th week of illness temp. rose to 100 and 101 for four days and then settled again - probably due to some small thrombus let loose from one of the thrombosed pelvic veins. Patient was kept resting in bed for six weeks from the commencement of the phlegmasia alba dolens and until all the oedema and swelling had gone down in each leg.

The pelvic cellulitis cleared up very well, as did the urinary condition.

A Blood picture taken before discharge showed the red blood corpuscles to have increased to over 3,000,000, the haemoglobin also had increased by over 50% (e.g. to 60%).

Number of days in hospital = 84.

Number of days duration of  
fever in hospital = 30.





*Patient's Name*

*Information to be sent to:*

Notified as \_\_\_\_\_ by Dr. \_\_\_\_\_

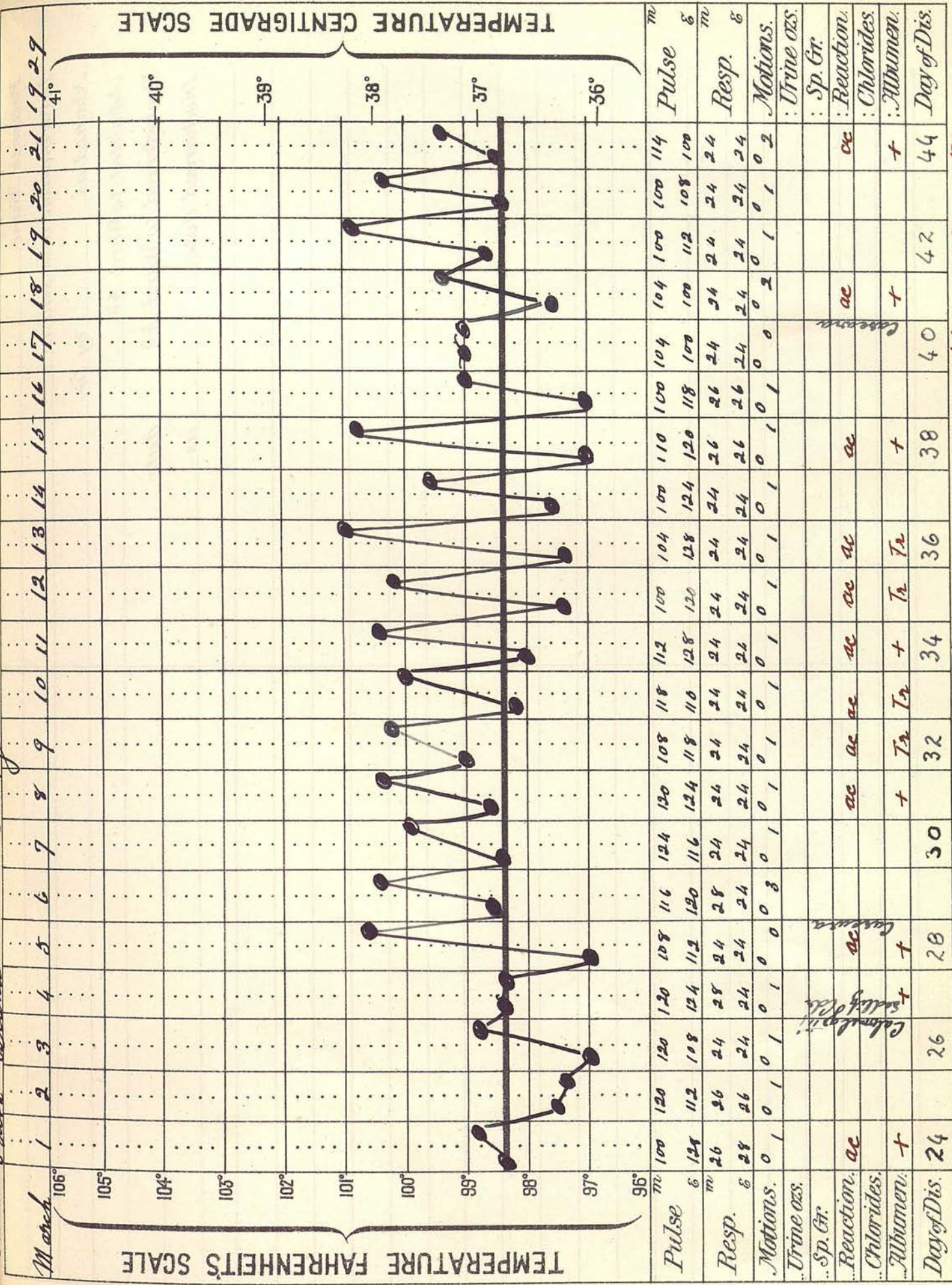
Admitted to Ward No.

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as \_\_\_\_\_

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*Patient's Name:*

Information to be sent to:

Notified as \_\_\_\_\_ by Dr.

Admitted to Ward No.

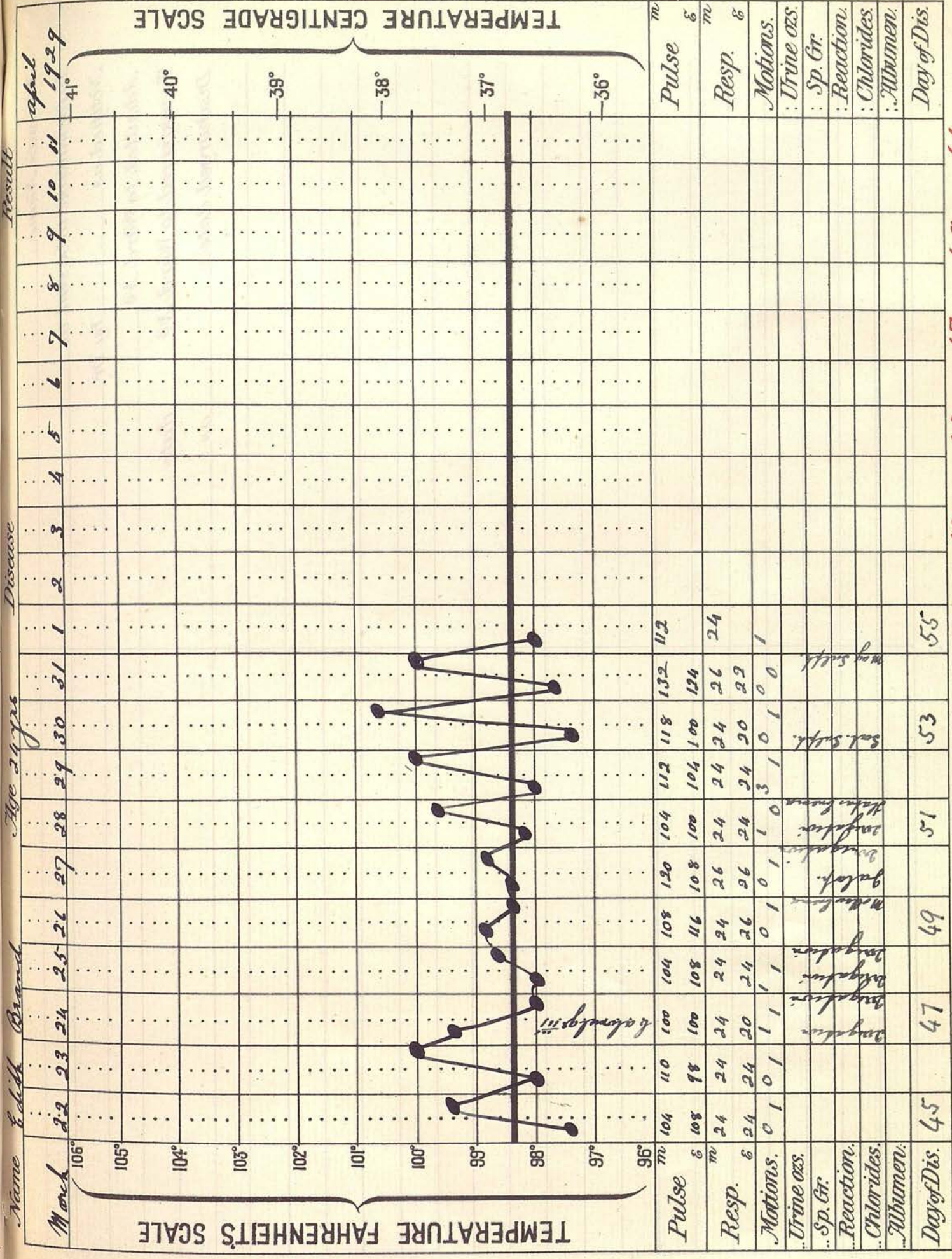
Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as \_\_\_\_\_

<i>Patients Name</i>	<i>Information to be sent to</i>
<i>Notified as</i>	<i>by Dr.</i>
<i>Admitted to Ward No.</i>	<i>date</i>
<i>Transferred to Ward No.</i>	<i>date</i>
<i>Discharged date</i>	<i>as</i>



Patient's Name



Day of Discharge 51 53 55 57 59 61 63 65 67 69 71

Patient's Name \_\_\_\_\_

Information to be sent to:

Notified as \_\_\_\_\_ by Dr. \_\_\_\_\_

Admitted to Ward No.

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as

[illegible]



Case 82.

Miss E.B. Aet 24 years. Primipara. Previous Infectious diseases - Nil.

History: 31/1/29 Normal delivery. (Rash on body, not on face). 6/2/29 Temp. 103, headache. 7/2/29 Temp. 104, pulse 128, vomiting, lochia scanty. Involution of uterus delayed (the rash thought to be urticarial) Admitted to hospital on the 9th day of the puerperium and 3rd day of disease. Temp. 103, pulse 132.

Clinical Notes: Patient looks very ill, face ashen grey in colour, patient very sick. Abdomen: no marked rigidity, fundus of uterus large and boggy about on level with umbilicus, tender on pressure, marked tenderness on pressure also in the whole lower half of abdomen and in the left iliac fossa - peritonitis. Cervix: lacerated, blood stained yellow discharge coming from the uterus. Vagina and Perineum: normal.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = no casts, no pus cells, no organisms.

Uterine Culture = Not taken.

Blood Picture = Erythrocytes = 2,570,000

Haemoglobin = 45%. Colour

Index = .8. Leucocytes =

21,400. Polymorphs = 85%.

Lymphocytes = 14%. Eosinophils = 1%.

Treatment and Progress: 50 c.c. antistreptococcal

serum (puerperal) on day of admission. Glycerine Treatment. Femergin. Quin Sulph. gr. 4, four hourly. Patient ran a continued temp. of 103 and 100 which also swung to 99 for 16 days after admission, pulse running about 120. Then temp. normal for one week, pulse, however, fast 120. For the following four weeks patient ran an intermittent temp., pulse over 100 but under 120. Right and left fallopian tubes very distended, swollen and tender. Patient was ultimately transferred to the Infirmary as a double pyosalpinx where she was operated upon and pus found in the peritoneal cavity - haemolytic streptococci being found in the pus. The large abscess cavity on the right side I understand extended almost up to the liver. Patient made a good recovery after operation.

Number of days in hospital = 53.

Number of days duration of

fever in hospital = 43.

Case 83.

Mrs. M.H. Aet 30 years. Primipara. Previous Infectious diseases - Measles.

History: 27/10/29. Normal delivery (attending doctor had a septic finger). 29/10/29. Headache, abdominal pain. Rigor and sweating.

Admitted to hospital on the 6th day of the puerperium and 4th day of disease. Temp. 101, pulse 110.

Clinical Notes: Face palish grey and anaemic. Abdomen: Fundus of uterus on a level with umbilicus.

Uterus enlarged, soft and very tender on palpation.

A mass is palpable in the right iliac fossa which is very tender on palpation. Cervix: both lips oedematous and congested, no tears present, copious curdy white discharge from uterus, no offensive smell.

Vagina: no tear. Perineum: no tear.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = no casts, pus cells present, no organisms.

Uterine Culture = Non-haemolytic streptococci (streptococcus salivarius).

Blood Picture = Erythrocytes = 3,080,000.

Haemoglobin = 40%. Colour Index = .7. Leucocytes = 20,600.

Polymorphs = 86%. Lymphocytes = 12%. Eosinophils = 2%.

Dick Test = Negative (4th day of disease).

Treatment and Progress: Glycerine Treatment. Femer-

gin. Sulfarsenol 6 cgms. daily for 4 days. Hot  
douches. Radiostoleum 1 drachm b.i.d.  
Temp. kept flickering away for 8 days (99 to 100)  
Pulse however good and quiet. Temp. then settled.  
Discharge from uterus practically gone. Cellulitic  
condition in the right broad ligament much less tender.  
Patient improved rapidly and after several more days  
as she had a very good home to go to, where she could  
have attention, she was allowed to leave the hospital.

Number of days in hospital = 15.

Number of days duration of

fever in hospital = 8.

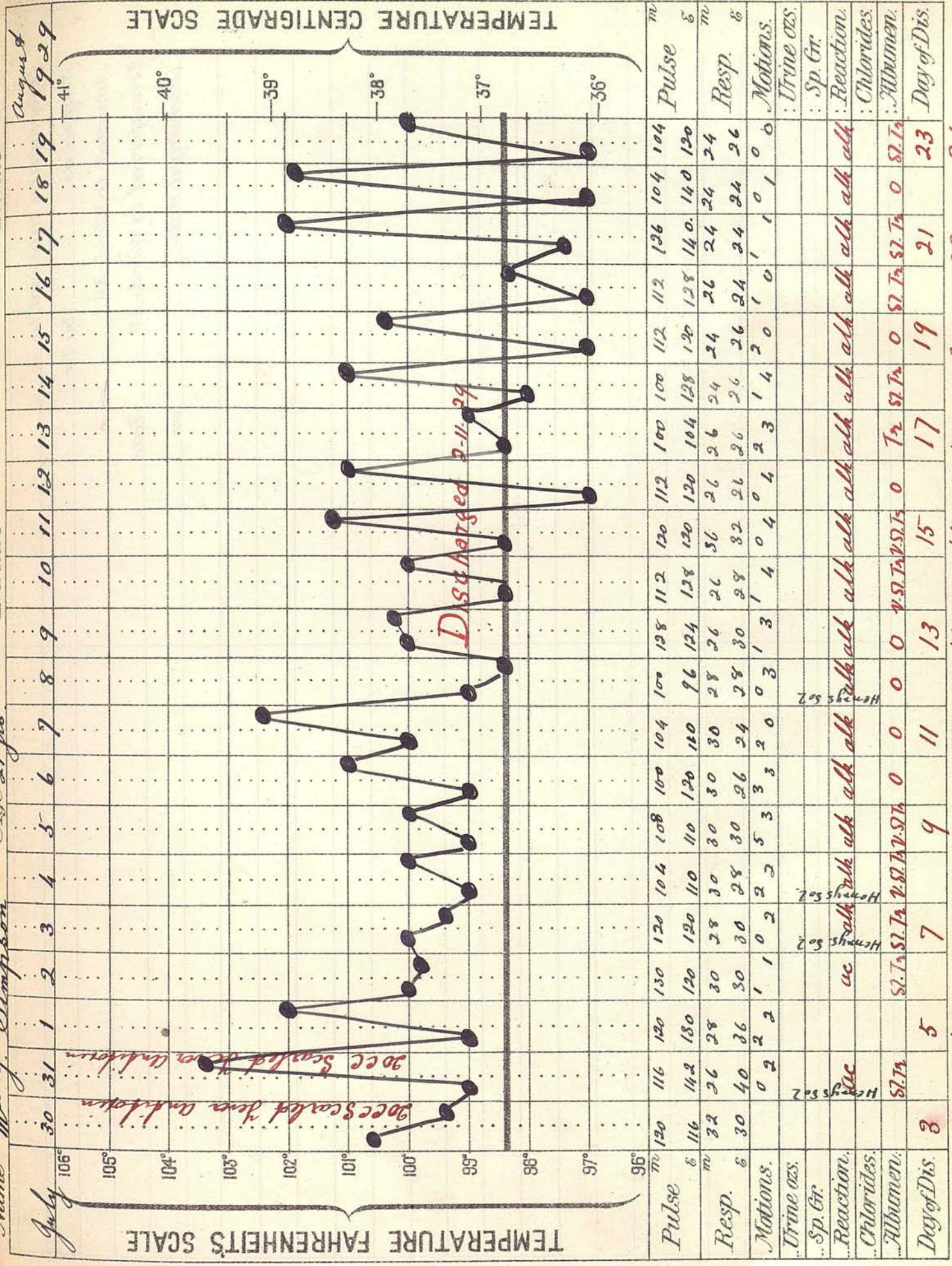


Result

Disease

Age 21 yrs.

Name Mrs. J. Simpson





Patient's Name:

Information to be sent to:

Notified as \_\_\_\_\_ by Dr \_\_\_\_\_

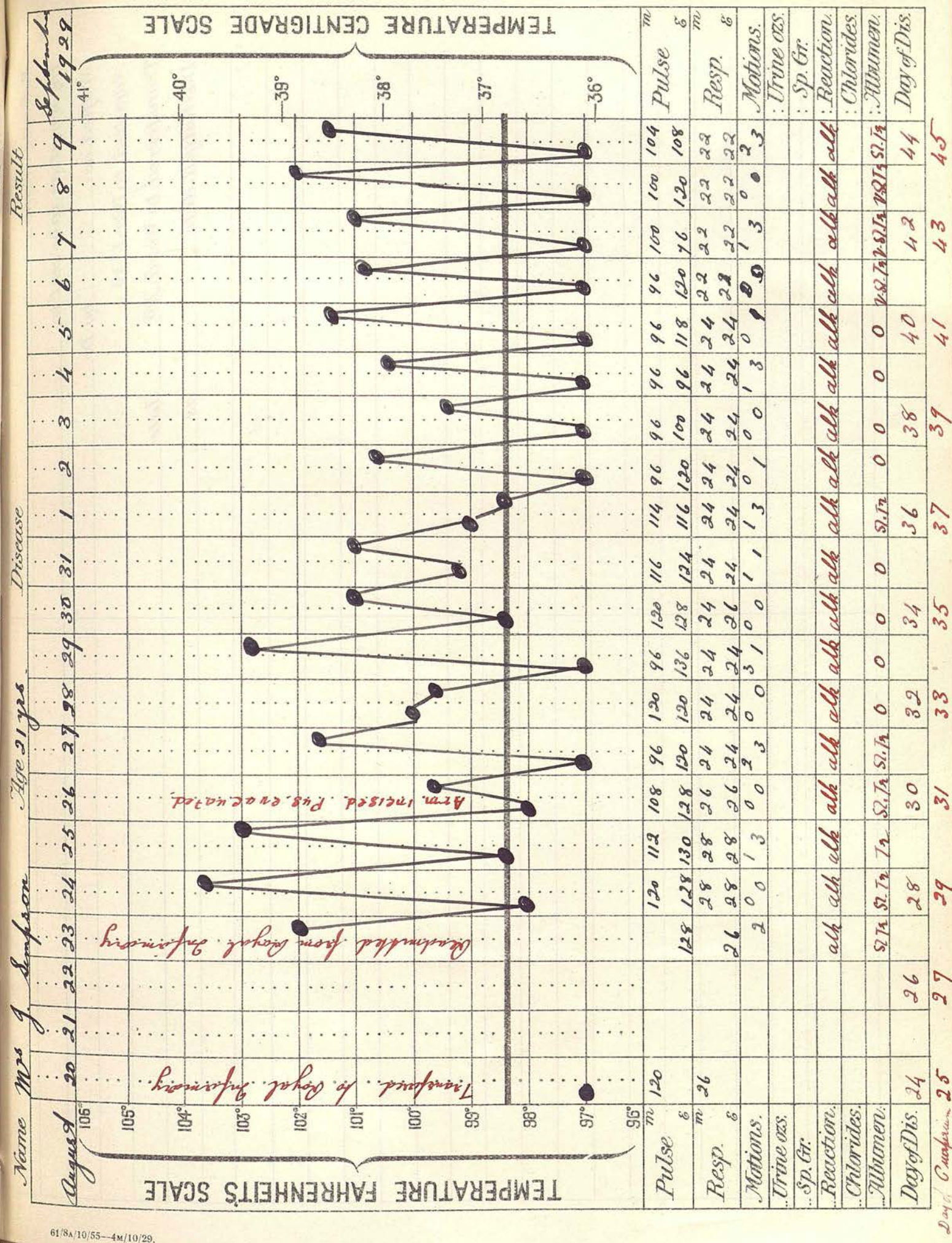
Admitted to Ward No.

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as \_\_\_\_\_

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Patient's Name:

Information to be sent to:

Notified as \_\_\_\_\_ by Dr \_\_\_\_\_

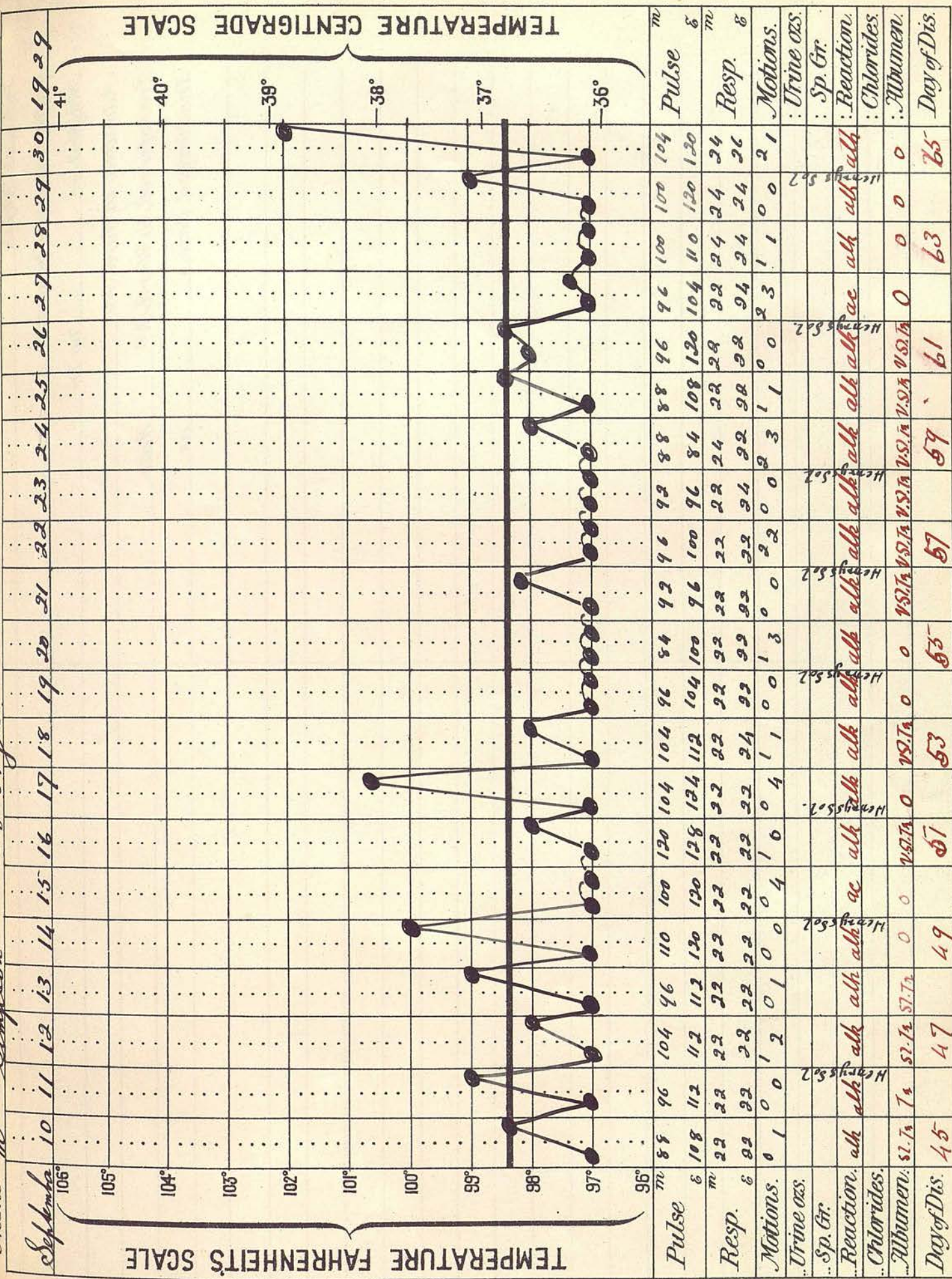
Admitted to Ward No.

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as \_\_\_\_\_

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Patient's Name:

Information to be sent to:

Notified as \_\_\_\_\_ by Dr. \_\_\_\_\_

Admitted to Ward No.

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as \_\_\_\_\_

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Name

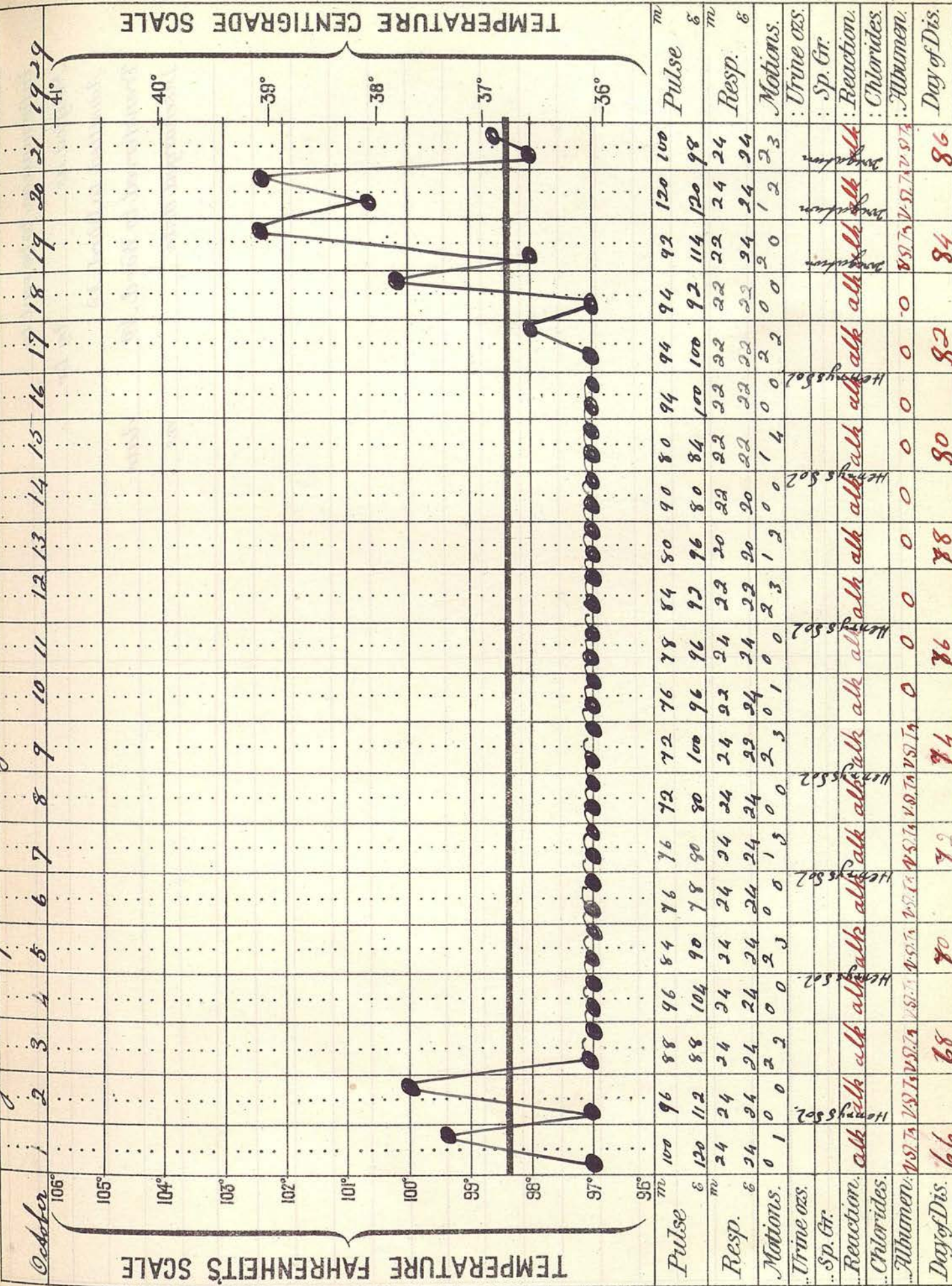
Age

Sex

Occupation

Result

Day of Dis.





Patient's Name:

Information to be sent to:

Notified as \_\_\_\_\_ by Dr. \_\_\_\_\_

Admitted to Ward No.

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as \_\_\_\_\_

[illegible]

may. 1929

Name *Mrs Jesse Simpson* Age *21 yrs* Disease

TEMPERATURE FAHRENHEIT'S SCALE

TEMPERATURE CENTIGRADE SCALE

TEMPERATURE FAHRENHEIT'S SCALE		TEMPERATURE CENTIGRADE SCALE	
October	22 23 24 25 26 27 28 29 30 31	November	1 2 3 4 5 6 7 8 9 10 11 12
106°		41°	
105°		40°	
104°		39°	
103°		38°	
102°		37°	
101°		36°	
100°			
99°			
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Pulse	m 84 88 84 76 84 84 84 84 86 90 86 90 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 84 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Patient's Name:

Information to be sent to

Notified as \_\_\_\_\_ by Dr \_\_\_\_\_

Admitted to Ward No.

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as \_\_\_\_\_

[illegible]

Case 84.

Mrs. J.S. Aet 21 years. Primipara. Previous Infectious Diseases = Mumps, Scarlet Fever.

History: 27/7/29. Normal delivery with bruising of labia and perineal tear. 28/7/29. Headache and shivering. Temp. 104, Pulse 130. Since then Temp. of 100 and 103. Pulse over 120.

Admitted to hospital on the 4th day of the puerperium and 3rd day of disease. Temp. 100.6, Pulse 120.

Clinical Notes: Abdomen: Fundus uteri two fingers breadth below umbilicus - firm but tender. Cervix: lacerated (both lips) and showing sloughing on its vaginal surface. Thickish yellow blood stained discharge from the cervix, not offensive. Vagina: oedematous and sloughing in some parts. Perineum: deep lateral tear on the right side which has been sutured. Sutures septic so removed. Rectum not involved. Vulva: oedematous with some sloughing areas.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = No casts, a few pus cells, a few small chained streptococci.

Uterine Culture = Haemolytic Streptococci.

Blood Picture = Erythrocytes = 3,400,000.

Haemoglobin = 55%. Colour Index = .8. Leucocytes = 16,300.

Polymorphs = 79%. Lymphocytes =

15%. Large mononuclears = 4%.

Eosinophils = 2%.

Dick Test = Negative (10th day of disease).

Treatment and Progress: 20 c.c. Scarlet Fever anti-toxin on admission. 20 c.c. Scarlet Fever anti-toxin on day following admission. Glycerine Treatment. Femergin. Mist Pot Cit and Sod Bic. Caps Metramine. On 6th day of admission definite tenderness over right broad ligament. Patient feels somewhat sick and has some diarrhoea.

Temp. still raised, but after 10 days commences to intermit (see Chart). After 3 weeks admission, patient running a high spiking temp. Pulse about 120.

A large tender swelling in the position of the right broad ligament is now palpable - definite pelvic cellulitis on the right side (same side as deep vaginal tear) with some pelvic peritonitis. A catheter specimen of urine shows no casts, numerous pus cells, Streptococci, staphylococci, gram positive cocci, and gram negative bacilli. Transferred to Infirmary. Re-admitted 3 days later. 3 days after admission a small abscess on left forearm incised - pus contains streptococci. Patient ran a spiking temp. as shown on chart for a further 4 weeks but gradually settled down. At the end of the 9th week there were 4 days of slight spiking of temp.

Patient was allowed up out of bed in her 11th week, but attempted to do too much and the temp. rose again to 102 for 2 days. After further rest in bed



patient settled down very well.

Arrangements were made for the patient to enter the Royal Infirmary for further treatment in 6 or 12 months time.

Patient during her last six weeks in hospital was on Syr Lactophos Calcium. Light treatment biweekly. Vaccine treatment.

Number of days in hospital = 93.

Number of days duration of

fever in hospital = 49.

Case 85.

Mrs. E.G. Aet 35 years. Multipara. Previous Infectious Diseases = nil.

History: 18/9/29. Forceps delivery. 21/9/29.

Shivering and headache.

Admitted to hospital on the 18th day of the puerperium and 15th day of disease. Temp. 97, Pulse 96.

Clinical Notes: Patient pale. Face pallid grey colour. Abdomen: No tenderness over site of uterus. Tenderness on pressure in both right and left iliac fossae. Cervix: oedematous. No lacerations. Thick yellow discharge from uterus, not foul smelling.

Vagina and Perineum: no lacerations.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = No casts, no pus cells, no organisms.

Uterine Culture = Haemolytic Streptococci (Streptococcus Pyogenes) and Staphylococci (albus).

Blood Picture = Erythrocytes = 4,200,000.

Haemoglobin = 52%. Colour

Index = .65. Leucocytes =

22,800. Polymorphs = 82%.

Lymphocytes = 11%. Large

mononuclears = 3%. Eosino-

phils = 3%. Basophils = 1%.

Treatment and Progress: Glycerine Treatment. Hot douching. Radiant heat to pelvis. Hot gamgee

foments to abdomen. Autogenous vaccine (from uterine culture) given biweekly. On day following admission Temp. 103, Pulse 112 - following a rigor. Abdomen still tender in iliac fossae. Temp. raised for 2 days further and then normal but patient looks ill and is restless. Abdomen rather full but moves freely on deep inspiration. Tenderness on brim of pelvis. Patient sick and off her food. A case of pelvic cellulitis with some pelvic peritonitis. Pulse is quiet however. Temp. kept intermitting between 99 or 100 and 97 for another 7 days and then settled. On 21st day of admission still tenderness present over right and left broad ligaments. General condition greatly improved. Pulse excellent. Before discharge a vaginal examination revealed no tenderness, no thickening. No retroversion. Case healed well.

Number of days in hospital = 31.

Number of days duration of

fever in hospital = 9.

Case 86.

Mrs. J. Aet 19 years. Primipara. Previous Infectious Diseases = nil.

History: 2/1/29. Normal Delivery in Maternity Hospital after forceps had failed on three occasions outside. A badly lacerated vagina and perineum sutured in Maternity Hospital. Temperature 103 for a week with marked remissions.

Admitted to hospital on the 16th day of the puerperium and 7th day of disease. Temp. 101.6, Pulse 124. Respirations 26.

Clinical Notes: Patient pale and anaemic. Pulse rapid and poor in quality. Abdomen a little full. A very tender swelling palpable in the right iliac fossa. No tenderness on the left side. Foul yellow discharge, small in amount from the uterus. Tenderness on palpation over site of uterus. Vagina: badly lacerated, the tear evidently extending into the base of the right broad ligament. Cervix: lips red and inflamed, no tears. Perineum: no tear.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = No casts, Pus

Cells +++, B. Coli +++,

Uterine Culture = Not taken.

Blood Picture = Erythrocytes = 2,500,000.

Haemoglobin = 40%. Colour Index =

.8. Leucocytes = 8,000.

Polymorphs = 76%. Lymphocytes =

23%. Large Mononuclears = 4%.

Eosinophils = 3%.

Treatment and Progress: 50 c.c. antistreptococcal serum (puerperal) on admission. 50 c.c. antistreptococcal serum (puerperal) on day after admission. Pot. Cit gr.XX Pot Boc gr.XX 4 hourly. Glycerine Treatment. Femergin. Temperature round about 102, until 5 days after admission when normal. Pulse 120-130. On the 6th day Temp. 103. Complaint of right sided abdominal pain and sickness - Pelvic Peritonitis (slight). After three further days with an elevated temperature and rapid pulse patient settled down and except for a morbilliform serum rash with some adenitis patient had an uninterrupted convalescence.

Number of days in hospital = 23.

Number of days duration of

fever in hospital = 9.

Case 87.

Mrs. M. L. Aet 25 years. Primipara. Previous Infectious Diseases = unknown.

History: 10/1/29 Normal Delivery. 16/1/29. Temp. 100.4. Lochia offensive, semi-purulent.

Admitted to hospital on the 9th day of the puerperium and 3rd day of disease. Temp. 100, Pulse 100.

Clinical Notes: Abdomen: Fundus of uterus palpable in mid-line just below umbilicus - tender on pressure. Tender firm swelling in the right iliac fossa - cellulositic condition. No tenderness or abnormal swelling in the left iliac fossa. Dark brown offensive discharge from uterus. Patient appears fairly well. Pulse satisfactory. Cervix: Vagina and Perineum: normal.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = no casts, no pus cells, no organisms.

Uterine Culture = Not taken.

Blood Picture = Erythrocytes = 3,800,000. Haemoglobin = 50%. Colour Index = .6. Leucocytes = 14,600. Polymorphs = 78%. Lymphocytes = 18%. Large mononuclears = 2%. Eosinophils = 1%. Basophils = 1%.

Treatment and Progress: 50 c.c. antistreptococcal serum (puerperal) on day of admission. Glycerine Treatment. Femergin.

Patient ran a temp. of 100 for 4 days and then it



gradually settled. The Glycerine Treatment cleared up ~~xxxx~~ very rapidly the local uterine infection. Patient suffered from a mild right sided parametritis on admission, under rest, glycerine treatment followed by glycerine ichthyol tampons this also cleared up satisfactorily.

Number of days in hospital = 17

Number of days duration of

fever in hospital = 4.

Case 88.

Mrs. K. Aet 39. Multipara. Previous Infectious Diseases = nil.

History. 31/1/29. Miscarriage (3rd month?) 7/2/29 Haemorrhage. Curettage performed.

Admitted to hospital on the 11th day of the puerperium and 4th day of disease. Temp. 99 to 102.4. Pulse 120.

Clinical Notes: Patient very pale and anaemic.

Abdomen: Severe pain and definite tenderness elicited over the left broad ligament - pelvic cellulitis.

No tenderness elsewhere. Fundus of uterus not palpable. No discharge, from the uterus. No examination made of cervix, vagina and perineum.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = No casts, no pus cells, no organisms.

Uterine Culture = Not taken.

Blood Picture = Erythrocytes = 1,770,000.

Haemoglobin = 28%. Colour

Index = .7. Leucocytes =

22,200. Polymorphs = 82%.

Lymphocytes = 16%. Large mononuclears = 1%.

Eosinophils = 1%.

Treatment and Progress: Femergin. Mist Ferri et Quin Cit gr.  $\sqrt{t.i.d.}$  Radiant heat to pelvis.

Temp. intermittent for five days following admission

swinging between 102.8 and 98.4.

50 c.c. antistreptococcal serum (puerperal) given on 6th day of admission. Temp. then normal for 2 days but pulse fast 110-120. Temp. then started to swing again for another five days. Patient had some sickness and vomiting - inflammatory mischief still present in the left broad ligament. Temp. came down again for two days, only to rise to 100 again for a day or two more.

Thus temp. swung on and off for nearly three weeks and then settled at normal, the pulse also quietening down.

Patient made a good recovery, the inflammatory mischief in the left parametrium clearing up satisfactorily.

Number of days in hospital = 38.

Number of days duration of

fever in hospital = 16.

Case 89.

Mrs. R.B. Aet 30 years. Multipara. Previous Infectious Diseases = Scarlet Fever.

History: 25/6/29. Miscarriage. 7/7/29. Headache, shivering, vomiting, abdominal pain, offensive discharge since 25/6/29.

Admitted to hospital in the 13th day of the puerperium and 1st day of disease. Temp. 103, Pulse 132.

Clinical Notes: Abdomen: Fundus of uterus tender and situated deep in abdomen, about level of umbilicus. Tenderness elicited and some thickening palpable in the right and left broad ligaments. Cervix: no congestion or lacerations observed. Vagina: no tears. Perineum: normal, thick yellow uterine discharge.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = No casts, no pus cells, no organisms.

Uterine Culture = Haemolytic Streptococci and Staphylococci (Staphylococcus albus).

Blood Picture = Erythrocytes = 3,500,000.

Haemoglobin = 65%. Colour Index = .9. Leucocytes = 15,600.

Polymorphs = 88%. Lymphocytes = 10%. Large mononuclears = 2%.

Dick Test = Negative (1st day of disease).

Treatment and Progress: 50 c.c. antistreptococcal serum (puerperal) on day of admission.

Glycerine Treatment. Hot douches. Glycerine and Ichthyol tampons. Radiant heat to the pelvis.

Temp. normal for 3 days following admission but pulse fast. Then temp. rose to 100. Temp. swung away between 99.6 and 100 for another 10 days, pulse fast 108 to 120. Note well marked polymorph leucocytosis. Patient then improved - 13 days after admission patient developed a generalised serum rash, urticarial in nature.

Right sided pelvic cellulitis much improved, still tenderness in the left iliac fossa.

Discharge from uterus ceased after 4 days glycerine treatment. Patient made a good recovery.

Number of days in hospital = 28.

Number of days duration of

fever in hospital = 12.

Case 90.

Mrs. K. Aet 38 years. Multipara. Previous Infectious Diseases = unknown.

History: 27/10/29 Normal Delivery. Small tear of perineum. 30/10/29 Headache. 31/10/29 Severe rigor. Temp. 102, Pulse 128. Offensive Lochia.

Admitted to hospital on the 5th day of the puerperium and 2nd day of disease. Temp. 99, Pulse 116.

Clinical Notes: Abdomen: Fundus of uterus firm but tender, situated at level of umbilicus. No tenderness in the right and left iliac fossae. Cervix: both lips swollen and congested. No lacerations observed. Copious yellowish discharge from the uterus but not very offensive. Vagina: No lacerations. Perineum: small tear. Heart: Prolonged and laboured first sound in the mitral area. Second aortic sound loud and accentuated.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = No casts, no pus cells, no organisms.

Uterine Culture = Unclassified Gram positive cocci.

Blood Picture = Erythrocytes = 4,450,000.

Haemoglobin = 50%. Colour Index = .5. Leucocytes = 14,600.

Polymorphs = 88%. Lymphocytes = 12%.

Dick Test = Negative (2nd day of disease).



Treatment and Progress;     Glycerine Treatment.

Femergin.

For a week following admission ran an intermittent temperature - The temp. rising to 100. Pulse 90 to 100. On 3rd day of admission patient had a rigor. 8 days after admission on examination pain complained of on palpation over the right broad ligament. No swelling or thickening palpable. Examination of urine should no pus cells or organisms. The following day (9 days after admission) Temp. 102, Pulse 118.

Marked pain on palpation low down in the right iliac fossa - parametritis. Patient started on a course of Sulfarsenol - 6 cgms. given daily for 6 days.

On 11th day of admission patient had a slight rigor. Temp. 101, Pulse 116. A few days later temp. settled at normal and the pulse slowed to 88. Patient then proceeded to convalescence and made a good recovery.

Number of days in hospital = 31.

Number of days duration of

fever in hospital            = 11.

Case 91.

Mrs. P.C. Aet 34 years. Multipara. Previous Infectious Diseases = Measles.

History: 29/7/29. Failed Forceps. 30/7/29 High Forceps delivery = placenta manually removed.

25 c.c. antistreptococcal serum given intravenously

50 c.c. antistreptococcal serum given intramuscularly.

31/7/29. 50 c.c. antistreptococcal serum given intramuscularly. Patient developed a swinging temp. on the

day following delivery - pulse rate 112. Lochia

offensive. 1/8/29. Shivering and headache. Admitted

to hospital on the 5th day of the puerperium and 4th

day of disease. Temp. 99, Pulse 128.

Clinical Notes: Face pale and grey in colour.

Abdomen: Fundus of uterus midway between the umbili-

cus and symphysis. Tender on palpation. Tenderness

on pressure over the right and left broad ligaments.

Thin yellowish offensive discharge from the uterus.

Cervix: external os gaping. Old-standing lacerations

present with some recent abrasions also on

anterior lip. Vagina: small lacerations of both

walls. Perineum: slight tear. Heart: mitral

systolic murmur propagated into left axilla. No

dilatation of heart.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = No casts, no pus  
cells, no organisms.

Uterine Culture = Staphylococci (*aureus*) -

~~XXXXXXXXXXXXXXXXXXXX~~

Blood Picture = Erythrocytes = 2,250,000. Haemoglobin = 41%. Colour Index = .9. Leucocytes = 7,100. Polymorphs = 47%. Lymphocytes = 41%. Large mononuclears = 6%. Eosinophils = 4%. Basophils = 2%.

Dick Test = Negative (24th day of disease).

Treatment and Progress: 20 c.c. Scarlet Fever anti-toxin on day of admission. Glycerine Treatment. Femergin.

For three weeks patient ran an intermittent temp. - some pelvic inflammation. Temp. usually 97 in the mornings and 99 or 100 in the evenings. Local uterine condition cleared up. Patient complained of pain and stiffness in the left hip and left shoulder joints. No swelling evident.

A catheter specimen of urine revealed a few granular and hyaline casts, numerous pus cells, gram positive cocci and streptococci. Patient given appropriate treatment for pyelitis. Urea concentration test = 2.3

During the second three weeks of admission patient complained of severe aching pains in the region of the left hip; a slight fullness observed over the region of the left greater trochanter. Much tenderness on palpating the left femoral triangle. Adduction, and rotation of left hip causes severe pain. Condition thought to be an arthritis of the hip joint, or staphylococcal possibly streptococcal/infection in nature. Marked

pain complained of on stretching the left sciatic nerve. Patient was sent down to the Infirmary for X-ray examination of the left hip joint. The report on the X-ray plate was nothing abnormal to be seen.

Patient continued in her 7th, 8th and 9th weeks of illness to have severe pain in the region of the left hip joint. Temp. rising in the evenings to 99 or 99.5, 97 in the mornings. Patient unable to sleep at nights - the pain demanding the administration of omnopon. Tubercular disease of the hip joint was suspected, the blood picture also probably indicating some such mischief - the presence of a leucopenia - leucocytes = 7,100. Percentage of lymphocytes = 41%.

However there was no shortening of the left limb and the X-ray report was negative.

A needle was inserted deeply into the fullness on the lateral aspect of the left hip joint, but no fluid or pus was struck. The condition now appeared to be either a severe toxic neuritis involving the sciatic nerve or some septic mischief situated in the deep cellular planes around the left hip joint, possibly tracking from the cellulitis in the left broad ligament.

At the beginning of the 12th week of illness temp. settled for a few days (7) and patient temporarily was a little better. However temp. commenced to rise again to 99 or so in the evenings again and

the pain returned, although not nearly so severe since the left leg was immobilised in a long back splint.

A Blood count at the beginning of the 15th week showed:

Leucocytes = 6,200. Polymorphs = 64%.

Lymphocytes = 24%. Eosinophils = 4%. Large mononuclears = 6%. Basophils = 2%.

Leg measurements:

	<u>High</u>	<u>Knee</u>	<u>Calf</u>	<u>Ankle</u>	
Left Leg	<u>21</u>	13	$11\frac{1}{2}$	8	} Inches.
Right Leg	<u>18</u>	13	$11\frac{1}{2}$	8	

Vaginal examination revealed nothing abnormal in the pelvis. Rectal examination revealed nothing in the pouch of Douglas.

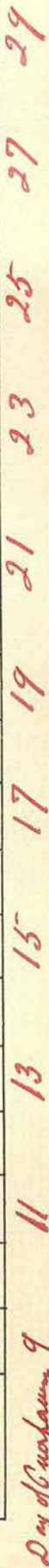
As patient's leg made no improvement she was transferred to the Infirmary for further examination under anaesthesia and X-ray examination.

Number of days in hospital = 89

Number of days duration of

fever in hospital = 51.







*Information to be sent to:*

Notified as \_\_\_\_\_ by Dr. \_\_\_\_\_

Admitted to Ward No.

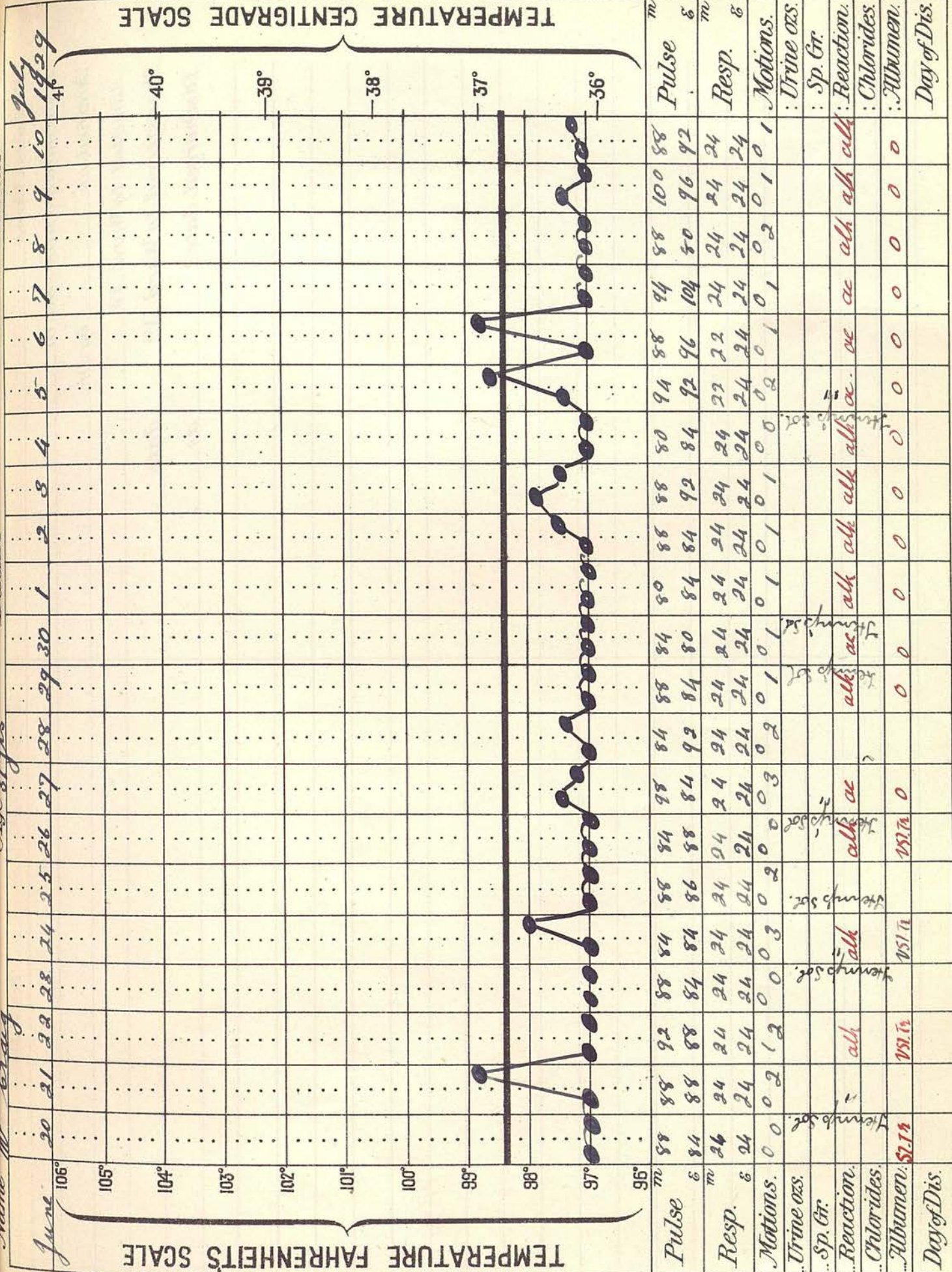
Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as: \_\_\_\_\_

[illegible]

TEMPERATURE FAHRENHEIT'S SCALE

TEMPERATURE CENTIGRADE SCALE





Patient's Name:

Information to be sent to:

Notified as \_\_\_\_\_ by Dr \_\_\_\_\_

Admitted to Ward No.

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as



*Putrients. Name.*

Information to be sent to:

Notified as \_\_\_\_\_ by Dr \_\_\_\_\_

Admitted to Ward No.

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as \_\_\_\_\_

[illegible]



Case 92.

Mrs. C. Aet 31 years. Primipara. Previous Infectious Diseases = unknown.

History: 22/5/29. Forceps delivery. No further history given. Admitted to hospital on the 9th day of the puerperium and 7 day of disease. Temp. 102, Pulse 136.

Clinical Notes: Abdomen: no tenderness on palpation  
Fundus of uterus mid-way between the umbilicus and symphysis. Cervix, Vagina and Perineum: not examined. No abnormal discharge from the uterus.  
Left Leg: very swollen from the knee to ankle. Very hot and tender to the touch. Inflamed areas which are the sites of thrombosed veins are scattered over the front and back. These areas are standing out and can be felt as indurated tender lumps. Two very well marked inflamed patches are seen, one internal to the knee and the other mid-way down the leg on the antero-lateral aspect. The main saphenous vein above the knee and the femoral are not affected. The condition is a well marked. phlegmasia alba dolens.  
Patient states varicose veins were bad before pregnancy.

	<u>Thigh</u>	<u>Knee</u>	<u>Calf</u>	<u>Ankle.</u>	
Left Leg	23	19 $\frac{3}{4}$	15 $\frac{3}{4}$	10	} Inches
Right Leg	23	15	13 $\frac{1}{4}$	7	

Blood Culture = Negative.

Wassermann = Negative.



Catheter specimen of urine = No casts, no pus  
cells, no organisms.

Uterine Culture = Not taken.

Blood Picture = Erythrocytes = 3,700,000.

Haemoglobin = 70%. Colour Index =

.9. Leucocytes = 19,200.

Polymorphs = 82%. Lymphocytes =

17%. Eosinophils = 1%.

Dick Test = Negative (? day of disease).

Treatment and Progress: Glycerine and Ichthyol 10%  
applied to affected leg. Absolute rest of leg be-  
tween sand-bags. Femergin.

Temp. as seen from the attached chart was intermittent  
for almost three weeks and then settled down.

Patient after absolute rest made an excellent recovery.

Number of days in hospital = 44.

Number of days duration of  
fever in hospital = 16.

Case 93.

Mrs. W.C. Aet 26 years. Primipara. Previous Infectious diseases = Measles, chicken-pox, whooping-cough.

History: 8/7/29. Forceps delivery. 15/7/29

Headache, shivering. 18/7/29 Sick, pain in calf or left leg.

Admitted to hospital on the 15th day of the puerperium and 8th day of disease. Temp. 100, pulse 102.

Clinical Notes: Abdomen: Fundus of uterus  $1\frac{1}{2}$  inches above symphysis. No tenderness on palpation.

Cervix, Vagina and Perineum: no lacerations observed.

Thick yellow offensive discharge from the uterus. No tenderness over the broad ligaments. Left leg:

phlegmasia alba dolens - leg much swollen from groin to foot. Tenderness on palpation along the saphenous vein.

Measurements of Legs.

	<u>Thigh</u>	<u>Knee</u>	<u>Calf</u>	<u>Ankle.</u>	
Left leg	23	16	14	$10\frac{1}{2}$	} Inches.
Right leg	18	14	12	$9\frac{3}{4}$	

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = no casts, no pus cells, no organisms.

Uterine Culture = not taken.

Blood Picture = Erythrocytes = 4,100,000.

Haemoglobin = 60%. Colour

Index = .7. Leucocytes =

14,000. Polymorphs = 81%.

Lymphocytes = 14%. Large Mononuclears = 3%. Eosinophils = 2%.

Treatment and Progress: Femergin. Glycerine and Ichthyol 10% and absolute rest for affected leg.

For six days following admission patient ran a swinging temp. with a pulse over 100. On this 6th day after admission dullness and diminished breath sounds in the right axilla extending back to the inferior angle of the right scapula. Patient has a cough and is expectorating sputum. Sputum examined for 7 successive days but no tubercle bacilli found. On the 7th day of admission a needle was inserted into the base of the right chest but no fluid was obtained. 10 days after admission patient developed follicular tonsillitis. Temp. continued to swing away, rising to 102, pulse 128 for another week. On examination of chest dullness at left base. Bronchial breathing with fine crepitations heard on auscultation - basal pneumonia. Dullness still marked at the right base. Both bases (right and left) explored with a needle but no fluid or pus obtained. The temp. settled for four days but rose again to 100 for two further days and then again falling to normal for three days. On the 28th day after admission temp. rose to 101, pulse 126. Intermittent temp. for another week, respiration rate 28. Right base still dull. Vocal resonance and vocal fremitus diminished. Bronchial breathing with coarse crepitations over the upper part of this dull area. The right base was again explored with

a needle but no fluid obtained. Temp. ultimately settled 35 days after admission and patient proceeded to convalescence. The lung bases cleared up satisfactorily and the swelling and oedema of the left leg went down under absolute rest etc. Patient made a good recovery.

Number of days in hospital = 64.

Number of days duration of

fever in hospital = 24.

Case 94.

Mrs. Wm. W. Aet 28 years. Multipara. Previous Infectious Diseases = Measles, mumps.

History: 22/7/29 Forceps delivery. 26/7/29

Headache. Pain in the right leg.

Admitted to hospital on the 22nd day of puerperium and the 18th day of disease. Temp. 101, Pulse 116.

Clinical Notes: Abdomen: nil abnormal to note.

Fundus of uterus not palpable. No tenderness over site of uterus. Some pain and tenderness in the right iliac fossa. Cervix: no lacerations. Very slight clear discharge from the uterus. Vagina and Perineum: no tears or lacerations observed.

Right Leg: Phlegmasia alba dolens. Leg swollen and tender.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = no casts, no pus cells, no organisms.

Uterine Culture = not taken

Blood Picture = Erythrocytes = 3,570,000.

Haemoglobin = 31%. Colour Index = .4. Leucocytes = 11,000.

Polymorphs = 67%. Lymphocytes = 25%. Large mononuclears = 5%.

Eosinophils = 2%. Basophils = 1%.

Treatment and Progress: Sulfarsenol 12 cgms., 12 cgms.  
12 cgms., 18 cgms., given biweekly. Absolute rest

for affected limb.

Sodium cacodylate gr.  $\frac{3}{4}$  daily for 10 days.

Patient ran swinging temp. of 100 and 101 for over a week following admission. Pulse fast under 120 however. Temp. then settled and patient proceeded to a normal convalescence and made a good recovery.

Number of days in hospital = 41.

Number of days duration of

fever in hospital = 9.



Case 95.

Mrs. A.M. aet 26 years. Multipara. Previous Infectious Diseases = nil.

History: 26/9/29. Baby born before arrival of midwife. 30/9/29 Temp. 101, Headache, shivering, pain in left side of abdomen.

Admitted to hospital on the 7th day of the puerperium and 3rd day of disease. Temp. 103.6, Pulse 148.

Clinical Notes: Patient states 2nd stage of labour was very short. Baby very large - weighed 12 lbs.

From history traumatization of genital tract likely.

Abdomen: Fundus of uterus midway between the umbilicus and symphysis. Slightly tender on palpation. Slight tenderness also present on palpation over the left broad ligament. Cervix: small lacerations of both lips, os swollen and oedematous. Slight blood stained discharge from the uterus. Vagina: a few small lacerations of walls. Perineum: small tear present.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = No casts, pus cells +++ . B. Coli +++.

Uterine Culture = Non-haemolytic Streptococci (Streptococcus Faecalis).

Blood Picture = Erythrocytes = 3,600,000.

Haemoglobin = 60%. Colour

Index = .8. Leucocytes = 16,560.

Polymorphs = 70%. Lymphocytes =

13%. Large mononuclears = 4%.  
Eosinophils = 3%. Basophils =  
1%.

Dick Test = Negative (6th day of disease).

Treatment and Progress:

50 c.c. antistreptococcal serum (puerperal) on  
day of admission.

50 c.c. antistreptococcal serum (puerperal)  
on day following admission. Temp. 102, Pulse 120.

Glycerine Treatment. Femergin. Mist Pot Cit  
et Sod Bic. Hexamine. Two days after admission temp.  
settled - pulse improved and slower.

5 days after admission patient developed  
Phlegmasia Alba Dolens of the left leg. Temp. 101.5.

Leg measurements:

	<u>Thigh</u>	<u>Knee</u>	<u>Calf</u>	<u>Ankle.</u>	
Left Leg	24	17	15	11½	} Inches.
Right Leg	20	15	15	9½	

After development of the White Leg the temp. flickered  
away for a few days and then settled.

Three weeks after admission patient developed  
Phlegmasia Alba Dolens of the right leg. No elevation  
of temperature however. The right leg at first was  
painful and glycerine ichthyol (10%) dressings had to  
be applied to the limb.

The patient however progressed extremely well and  
made a good recovery. The B. Coli bacilluria clearing  
up satisfactorily.

Number of days in hospital = 60.

Number of days duration of  
fever in hospital = 7.

GENERAL PERITONITIS.



Result

Disease

Age 36 yrs

Name Mrs Maynard Bean

TEMPERATURE FAHRENHEIT'S SCALE

TEMPERATURE CENTIGRADE SCALE

May

June

50cc ANTISTREPTOCOCCAL Serum  
ABDOMEN opened, pus evacuated  
Small Tube removed.

DIED at 5:25 AM 4-6-29

Pulse	m	g	m	g	Motions.	Urine ozs.	Sp. Gr.	Reaction.	Chlorides.	Albumen.	Day of Dis.
134	132	120	128	120							10
144	120	140	128	128							8
30	28	24	28	20							10
36	0	0	0	28							10
0	0	1	0	1							12
0	1	0	0	2							14
0	1	0	0								16
0	1	0	0								18
0	1	0	0								20
0	1	0	0								22
0	1	0	0								24
0	1	0	0								26

Day of Crisprum 6

Patient's Name:

Information to be sent to:

Notified as \_\_\_\_\_ by Dr. \_\_\_\_\_

Admitted to Ward No.

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as \_\_\_\_\_

[illegible]



Case 96.

Mrs. M.B. Aet 36 years. Multipara. Previous infectious diseases = Measles, chicken-pox.

History: 25/5/29 Miscarriage (2 months). Headache and vomiting. 28/5/29 Pain in abdomen.

Admitted to hospital on the 6th day of the puerperium and 6th day of disease. Temp. 99.8, Pulse 134.

Clinical Notes: Patient states the trouble began with a "bilious attack" - seized with sudden nausea and vomiting later followed by right sided abdominal pain. The abdominal pain is sometimes on the left side and sometimes on the right side. Has been very constipated, and been troubled with flatulence. Patient when she discovered she was pregnant on two occasions took large doses of quinine. The case suggests criminal abortion but the patient denies all insinuations. On admission patient extremely collapsed and toxic. Very ill but unwilling to give a definite history. Having much abdominal pain.

Examination - abdomen: markedly distended and swollen, very rigid especially over the lower recti. Tenderness all over abdomen especially low down with hyperaesthesia present. Dullness present in the flanks - tympanitic note in the centre - general peritonitis. Tongue dry and furred. Patient vomiting. Flatus passed but no faeces. Cervix: congested and red. Small septic erosions noted high up in both fornices. Very suspicious of instrumental interference.

Blood Culture = Negative.

Wassermann = Weak positive.

Catheter specimen of urine = A few granular  
and hyaline casts, no pus  
cells, no organisms.

Uterine Culture = Not taken.

Blood Picture = Erythrocytes = 2,600,000.

Haemoglobin = 48%. Colour  
Index = .9.

Leucocytes = 13,200.

Polymorphs = 81%. Lymphocytes =  
19%.

Treatment and Progress: 50 c.c. antistreptococcal  
serum (puerperal) on day of admission. On day follow-  
ing admission temp. normal but pulse rapid 132.

Operation: Under local anaesthesia abdominal mid-  
line incision made and peritoneal cavity opened.  
Much thick yellow foul smelling pus evacuated.  
Marked thickness felt in the right broad ligament  
through the abdominal wound. Right fallopian tube  
enlarged and swollen. The wound was closed and a  
large drainage tube inserted. Patient, however, never  
rallied and died three days later. On the three  
days previous to death patient had received 20 c.c.  
Mercurochrome intravenously daily, 1 pint of saline  
was also given intravenously each day as well as half  
a pint of saline subcutaneously. Patient was also on  
hot fomentations to the abdomen (before operation) Tinct.

digitalis m. XX, morphia and atrophine as required.

A report from the Royal College of Physicians on some scrapings taken from the uterus stated that sections showed the presence of fibrin entangling numerous pus cells, macrophages, and red cells. There is decidual tissue present (maternal element of pregnancy) but no chorionic villi. A few gland elements belonging to the endometrium were also to be seen. The condition is evidently of a septic character following the abortion.

Number of days in hospital = 5.

Number of days duration of

fever in hospital = 4.

\* .





Patient's Name:

*Information to be sent to:*

Notified as \_\_\_\_\_ by Dr \_\_\_\_\_

Admitted to Ward No.

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as \_\_\_\_\_

[illegible]



Case 97.

Mrs. E.B. Aet 32 years. Multipara. Previous infectious diseases = unknown.

History. 30/5/29 Normal delivery after incision of perineum. 2/6/29 Elevated temp., marked abdominal distension and tenderness with diarrhoea.

Admitted to hospital on the 8th day of the puerperium and 5th day of disease. Temp. 101, pulse 110 to 124.

Clinical Notes: Patient very ill indeed. Abdomen: markedly distended and swollen, abdominal wall does not move on respiration. Intestines floated up in centre of abdomen. Free fluid present in abdomen. Spleen palpable but no tenderness over the spleen or liver. Fundus of uterus one inch above the symphysis, very tender on palpation. There is much tenderness also on gentle palpation in the right and left iliac fossae. Cervix: lacerated (both lips). Vagina: Normal. Perineum: lacerated, sutures septic. Patient evidently suffering from general peritonitis.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = No casts, no pus cells, no organisms.

Uterine Culture = Non-haemolytic Streptococci.

Blood Picture = Erythrocytes = 4,100,000.

Haemoglobin = 78%. Colour

Index = .9. Leucocytes =

17,800. Polymorphs = 91%.

Lymphocytes = 7%.



Eosinophils = 2%.

Treatment and Progress:

50 c.c. antistreptococcal serum (puerperal) on day of admission, also 20 c.c. mercurochrome given intravenously.

50 c.c. antistreptococcal serum (puerperal) on day following admission and also 20 c.c. mercurochrome given intravenously.

Temp. was normal on this day but pulse extremely fast and thready. On third day of admission another 20 c.c. mercurochrome given intravenously. Pulse became very fast and weak and patient died on the 4th day after admission.

Number of days in hospital = 5.

Number of days duration of

fever in hospital = 4.

Case 98.

Mrs. J.L. Aet 23 years. Primipara. Previous Infectious diseases = Measles.

History: 19/8/29 Normal delivery. 21/8/29

Headache, shivering, sore throat, rash appeared. Removed to Peebles Fever Hospital with scarlet fever.

15/9/29 Patient after being allowed up fainted and complained of abdominal pain. Vomited. Temp. 101, pulse 116. 16/9/29 Abdominal pain, vomiting, Temp. 103.2, pulse 146.

Admitted to hospital on the 30th day of the puerperium and ? day of disease, Temp. 97, pulse 136.

Clinical Notes: Face anxious and distressed.

Desquamation of the skin on hands, feet and lower legs. Abdomen: swollen and distended. No movements on respiration, abdominal wall rigid, diffuse tenderness all over the abdomen. Well marked tenderness on palpation in the left iliac fossa, dullness present in both flanks, fluid present in abdomen. Fundus of uterus not palpable. Cervix, Vagina and Perineum: Patient too ill for these parts to be properly inspected. Suffering from general peritonitis.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = no casts, pus cells present, no organisms.

Uterine Culture = Sterile, (no growth obtained).

Blood Picture = Erythrocytes = 3,800,000.

Haemoglobin = 59%. Colour Index=.8.

Leucocytes = 33,600. Polymorphs =

91%. Lymphocytes = 5%. Large

Mononuclears = 4%.

Dick Test = Negative (? day of disease).

#### Treatment and Progress:

Hot gangee fomentis to the abdomen, morph sulph.

gr.  $\frac{1}{4}$  as required. Mist Pot Cit et Sod Bic.

On the day following admission temp. 99, pulse rapid and thready over 120. Patient ill. General

Peritonitis. In the evening operation undertaken.

Under local anaesthesia abdomen opened by a mid-line incision, free fluid, thickish yellow pus evacuated from peritoneal cavity. Character of fluid suggested more pneumococcal peritonitis rather than

streptococcal peritonitis. A large drainage tube was inserted down into the pouch of Douglas and the wound closed. Examination of the pus from the abdominal cavity revealed short chained streptococci.

After the operation 30 c.c. of Jenners anti-pneumococcal serum were given. Patient put on pituitrin 1 c.c. and eserine gr.  $\frac{1}{100}$  four hourly, rectal salines four hourly. Two days following operation temp. commenced to intermit (100, 101 to 97) pulse 120. Patient still somewhat sick, wound discharging pus freely. Two days later temp. was sub-normal, pulse 110, patient slightly better. Then for the following eight days temp. rose in the evenings but pulse quieter and of stronger volume - not

so thready. Wound continued to discharge, the drainage tube being shortened daily. At the end of three weeks patient very fit and well, pulse excellent. Drainage tube removed, no discharge from wound but sutures cut through and wound gaping.

For a further 11 days patient very well, wound still open although no discharge of pus. On the 32nd day of admission under general anaesthesia the unhealthy granulations were scraped off the abdominal wound, the skin edges of the wound were trimmed and the wound resutured with deep and superficial sutures. A small piece of rubber dam was inserted at the lower edge of the wound. This resuturing operation which I performed was very successful, the whole wound uniting except the lower inch. Patient progressed well and after a long convalescence was discharged with orders to rest at home.

Number of days in hospital = 61

Number of days duration of

fever in hospital = 11.

Case 99.

Mrs. T. Mc.I. Aet 20 years. Multipara. Previous infectious diseases = unknown.

History: 31/3/29. Normal delivery. 2/4/29. Temp. 101.4, pulse 140.

Shivering, pain in abdomen.

Admitted to hospital on the 4th day of the puerperium and 2nd day of disease. Temp. 103, pulse 144.

Clinical Notes: Abdomen: Fundus of uterus at level of umbilicus, firm and tendern. Marked tenderness on pressure over the right and left broad ligaments. Cervix: congested and red, anterior lip slightly lacerated. Perineum and Vagina: normal. Offensive discharge from uterus.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = No pus cells, casts, or organisms.

Uterine Culture = Haemolytic streptococci.

Blood Picture = Erythrocytes = 4,100,000.

Haemoglobin = 63%. Colour In-

dex = .7. Leucocytes =

20,800. Polymorphs = 80%.

Lymphocytes = 15%. Large

Mononuclears = 3%. Eosino-

phils = 2%.

Treatment and Progress: Glycerine Treatment (1 day only) Hot foment to abdomen. Sulfarsenol 12 cgms. daily for 6 days.

50 c.c. Antistreptococcal serum (puerperal) on

day of admission.

On day following admission temp. 100 morning, 103 evening, pulse 132.

Given 50 c.c. Antistreptococcal serum (puerperal).

Two days following admission morning temp. 99.4, evening temp. 101.4, pulse 140. 20 c.c. Scarlet Fever antitoxin given. On this day also abdomen noted to be very distended with rigid wall, dullness present in the flanks and slight fluid thrill elicited. (General peritonitis). Patient ran a remittent temp. (102) for other four days then it settled but pulse rapid at 120. Patient developed herpes on the lips and nose, well marked flush on the left cheek, breath sounds a little harsh but vesicular at the right base, no dullness or accompaniments. Temp. continued to flicker for another week and then slowly settled. Abdomen much less distended and tenderness not so marked. Patient much improved generally. Patient proceeded to a normal convalescence and made a very good recovery.

Number of days in hospital = 42.

Number of days duration of

fever in hospital = 13.



GENERAL INFECTIONS OF THE BLOOD STREAM.

Name

Age 40 yrs

Lang

Result

January 1929

TEMPERATURE FAHRENHEIT'S SCALE

TEMPERATURE CENTIGRADE SCALE

DIED at 11-40 PM 5-1-29

Pulse	m	g	m	g	Motions.	Urine ozs.	Sp. Gr.	Reaction.	Chlorides.	Albumen.	Day of Dis.
126	126	126	126	126	10						5
128	128	128	128	128	10						7
32	32	32	32	32	10						9
34	34	34	34	34	10						11
36	36	36	36	36	10						13
38	38	38	38	38	10						15
40	40	40	40	40	10						17
42	42	42	42	42	10						19
44	44	44	44	44	10						21
46	46	46	46	46	10						23
48	48	48	48	48	10						25
50	50	50	50	50	10						27

Day of Quarantine 7 9 11 13 15 17 19 21 23 25 27

Patient's Name:

*Information to be sent to:*

Notified as \_\_\_\_\_ by Dr \_\_\_\_\_

Admitted to Ward No.

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as \_\_\_\_\_

[illegible]



Case 100.

Mrs. E.L. Aet 40 years. Multipara. Previous Infectious Diseases = unknown.

History: 29/12/29. Brow Presentation. Version performed. 31/12/29. Since this date continuous temp. of 103 with racing pulse. Sickness. Pain in right and left sides of abdomen.

Admitted to hospital on the 7th day of the puerperium and 5th day of disease. Temp. 100, Pulse 126.

Clinical Notes: Patient looks extremely ill. Very marked pallor of face and anaemia. Mucous membranes quite blanched. Tongue: dry and furred. Heart: Pulse very rapid and thready. 1st sound in mitral area very short and faint. No murmurs audible. Lungs: slight dullness and faintish breath sounds at the right base.

Abdomen: Does not move well on respiration. Fundus of uterus just below umbilicus, very tender on palpation. Very marked tenderness in the right and left ilac fossae. An indefinite tumid swelling palpable in the right iliac fossa. Discharge from the uterus foul smelling, thickish, and of a brownish colour. Incontinence of faeces present. Perineum: very badly torn - tear extends into the rectum.

Vagina: lacerated and bruised. Cervix: both lips lacerated, swollen and red. Legs: slight oedema of feet and ankles.

Blood Culture = Haemolytic Streptococci.

Wassermann = Not taken.

Catheter specimen of urine = No casts, no pus cells, no organisms.

Uterine Culture = Not taken.

Blood Picture = Erythrocytes = 850,000.

Haemoglobin = 16%. Colour

Index = 1. Leucocytes =

22,000. Polymorphs = 83%.

Lymphocytes = 11%. Large

mononuclears = 3%. Eosino-

phils = 2%. Basophils =  $\frac{1}{2}\%$ .

Blood film shows red blood corpuscles very poorly stained and crenated.

Poikilocytosis, Anisocytosis and polychromasia marked.

#### Treatment and Progress:

50 c.c. antistreptococcal serum (puerperal) on day of admission.

100 c.c. antistreptococcal serum (puerperal) on day following admission.

Femergin. Tinct Digitalis  $\overline{\text{Mxv}}$  4 hourly. Hot foment to abdomen.

On day after admission - Patient sick and vomiting.

General abdominal tenderness. Loss of superficial liver dullness. Pulseless at wrists. Patient died with 48 hours of admission. of Septicaemia and General Peritonitis.

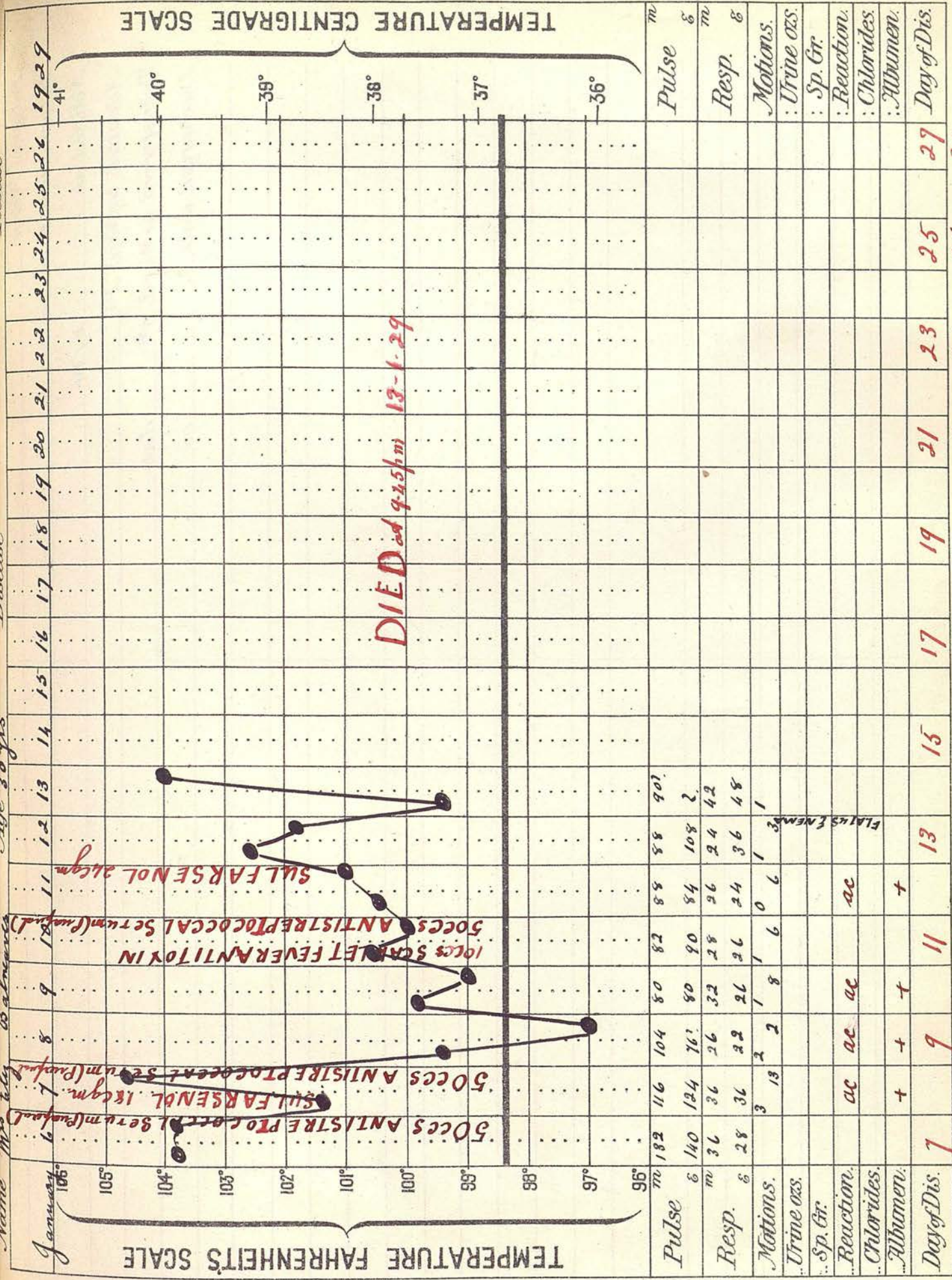
Number of days in hospital = 2.

Number of days duration of

fever in hospital = 2.



TEMPERATURE CENTIGRADE SCALE



DIED at 9.45/pm 13-1-29

Day of Creation 8

Patient's Name:

Information to be sent to:

Notified as \_\_\_\_\_ by Dr-

Admitted to Ward No. \_\_\_\_\_

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as \_\_\_\_\_

<i>Patient's Name</i>	<i>Information to be sent to</i>
<i>Notified as</i>	<i>by Dr</i>
<i>Admitted to Ward No</i>	
<i>Transferred to Ward No</i>	<i>date</i>
<i>Discharged date</i>	<i>as</i>



Case 101.

Mrs. E.B. Aet 30 years. Multipara. Previous Infectious Diseases = nil.

History. 30/12/28. Normal delivery after complaining of left sided abdominal pain. 31/12/28. Severe right sided abdominal pain. 1/1/29. Sickness and vomiting. 2/1/29. Pain in right iliac fossa, - tenderness and rigidity. Tongue dirty, breath foul. Temp. 103, Pulse 118. Lochia not offensive. Sent into Infirmary as a case of appendicitis. Given 50 c.c. antistreptococcal serum intramuscularly. 6/1/29. Rigor. Temp. 105. Lochia now offensive. No abdominal pain.

Admitted to hospital on the 8th day of the puerperium and 7th day of disease. Temp, 103.8, Pulse 132.

Clinical Notes: Face very pale and ashen grey in colour. Mucous membranes pale. Pulse very rapid, soft and thready. Heart: 1st sound in mitral area short and faint. Abdomen: very swollen and distended. Tenderness over site of uterus and in both the right and left iliac fossae. Fundus of uterus not palpable. Slight oedema of right leg and ankle. Patient too ill to be put up in the lithotomy position for further examination.

Blood Culture = Haemolytic Streptococci.

Wassermann = Negative.

Catheter specimen of urine = No casts, no pus cells, no organisms.

Uterine Culture = Not taken.

Blood Picture = Erythrocytes = 3,480,000.

Haemoglobin = 63%.

Colour Index = .9.

Leucocytes = 11,000. Poly-  
morphs = 79%. Lymphocytes =  
15%. Large mononuclears =  
5%. Eosinophils = 1%.

Treatment and Progress:

50 c.c. antistreptococcal serum (puerperal)  
on day of admission. Femergin.

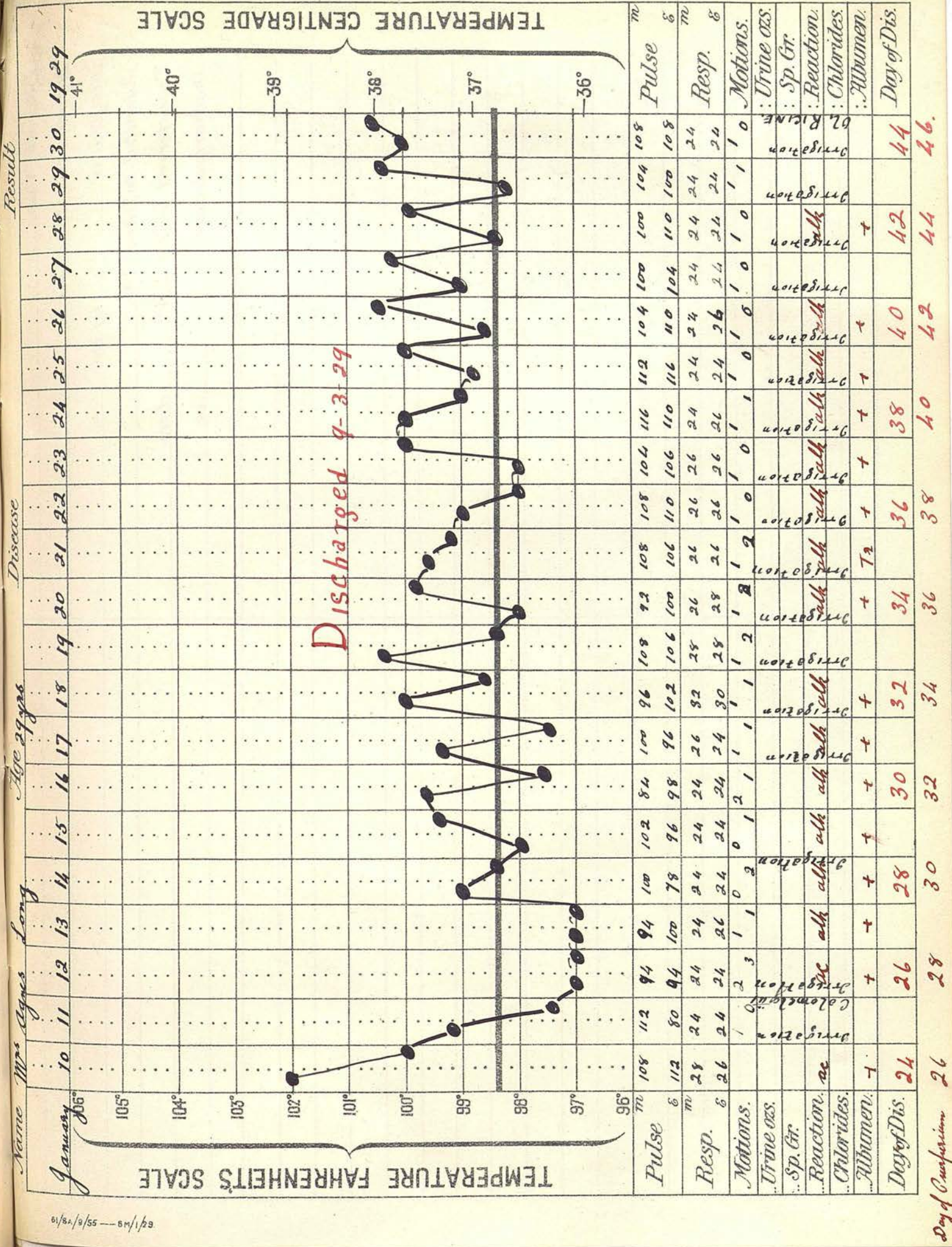
50 c.c. antistreptococcal serum (puerperal) on  
day after admission and 18 cgms. sulfarsenol. In  
evening of this day Temp. 104.6, Pulse 124.  
On 3rd day of admission temp. dropped to 99 but  
pulse very poor and thready. The next day temp.  
started to rise again. Patient was sick once or  
twice since admission and had persistent diarrhoea -  
evidently suffering from general peritonitis. Patient  
on Tinct. Digitalis M.~~XV~~ 4 hourly and camphor in  
oil gr. ~~iii~~ 4 hourly. Hot foment to abdomen, etc.  
4 days after admission given another 50 c.c.  
antistreptococcal serum (puerperal) along with 10 c.c.  
scarlet fever antitoxin. 5 days after admission  
24 cgms. Sulfarsenol given. Patient died on 8th  
day of admission of septicaemia and general peritoni-  
tis.

Number of days in hospital = 8.

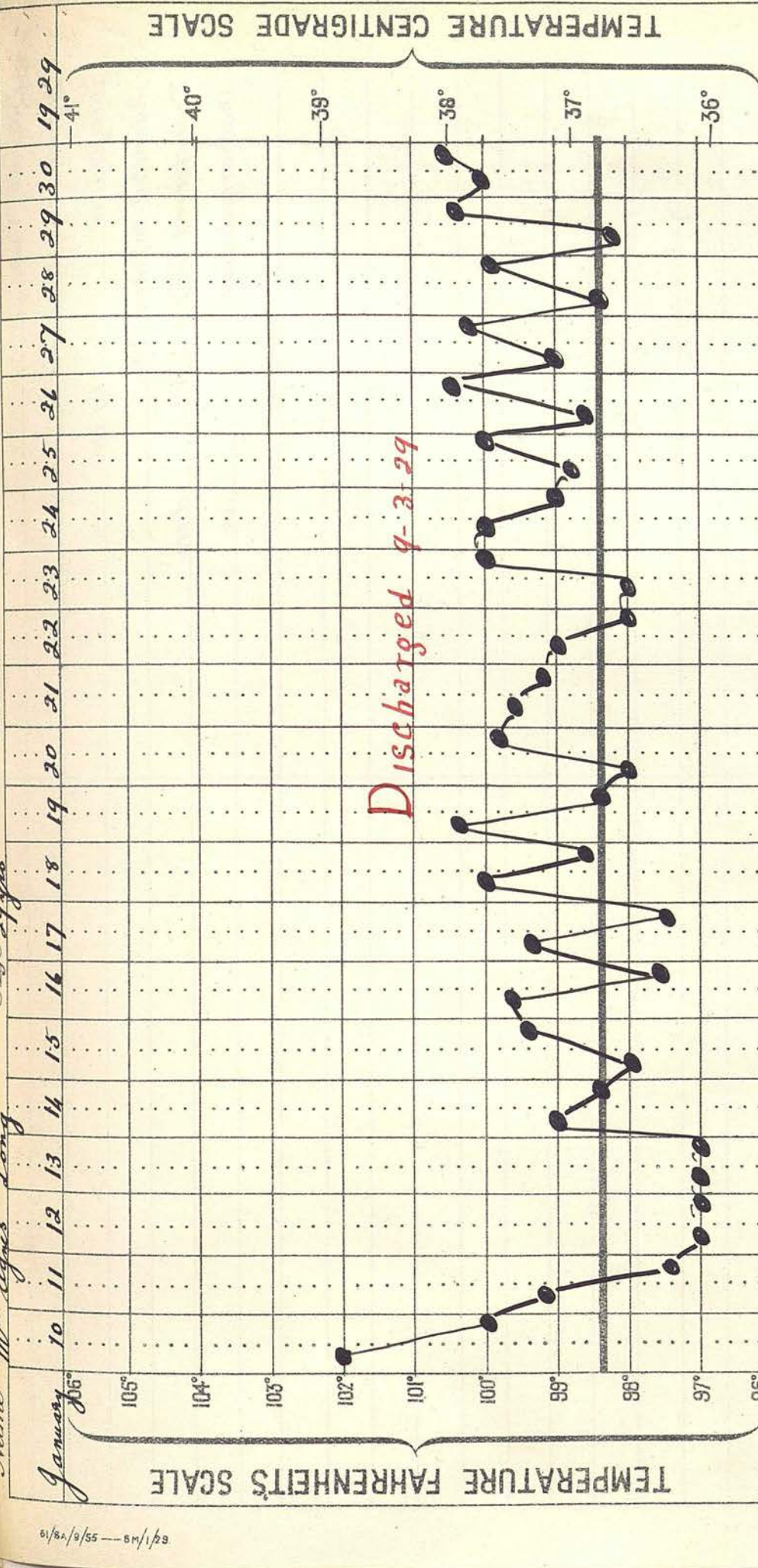
Number of days duration of

fever in hospital = 8.





Name Mrs. Agnes Long Age 29 yrs



Day of Dis.	24	26	28	30	32	34	36	38	40	42	44	46
Day of Dis.	24	26	28	30	32	34	36	38	40	42	44	46
Albumen.	+	+	+	+	+	+	+	+	+	+	+	+
Chlorides.	ac	ac	ac	alk	alk	alk	alk	alk	alk	alk	alk	alk
Reaction.				alk	alk	alk	alk	alk	alk	alk	alk	alk
Sp. Gr.												
Urine ozs.												
Motions.	1	2	3	1	1	1	1	1	1	1	1	1
Resp.	24	24	24	24	24	24	24	24	24	24	24	24
Pulse	112	80	94	100	96	96	92	108	104	100	104	108





9<sup>th</sup> Week



Result

*Discrete*

Are you

一

1120

Verme

Patient's Name \_\_\_\_\_

*Information to be sent to*

Notified as \_\_\_\_\_ by Dr \_\_\_\_\_

Admitted to Ward No\_

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as \_\_\_\_\_

[illegible]

TEMPERATURE FAHRENHEIT'S SCALE

TEMPERATURE CENTIGRADE SCALE

Name	Mrs. Agnes Long	Age	29 yrs	Disease	Result																	
January	21	22	23	24	25	26	27	28	1	2	3	4	5	6	7	8	9	10	11	12	13	March
TEMPERATURE FAHRENHEIT'S SCALE		TEMPERATURE CENTIGRADE SCALE																				
Pulse		Pulse																				
Resp.		Resp.																				
Motions.		Motions.																				
Urine az.		Urine az.																				
Sp. Gr.		Sp. Gr.																				
Reaction.		Reaction.																				
Chlorides.		Chlorides.																				
Albumen.		Albumen.																				
Day of Dis.		Day of Dis.																				



Patient's Name \_\_\_\_\_

*Information to be sent to:*

Notified as \_\_\_\_\_ by Dr \_\_\_\_\_

Admitted to Ward No.

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as \_\_\_\_\_

[illegible]



Case 102.

Mrs. A.L. Aet 29 years. Multipara. Previous Infectious Diseases = unknown.

History: 16/12/28. Normal Delivery. 18/12/28

Pains in back and legs. 25/12/28 So called "Influenza" attack. 27/12/28. Pain over iliac crests. Elevated temp. Pulse rate increased.

9/1/29. Offensive lochia. Temp. 104.

Admitted to hospital on the 26th day of the puerperium and 24th day of disease. Temp. 102. Pulse 108.

Clinical Notes: Face pale. Poor colour. Patient looks ill. Tongue: dry, dirty and furred. Abdomen: appears somewhat swollen and tumid. General tenderness. Fundus of uterus not palpable. No fluid. Fullness in left and right iliac fossae. Thick purulent yellow pus-like discharge from the uterus. Cervix: very red, inflamed and catarrhal. No tears seen. Vagina and Perineum: no lacerations noted. Pulse rapid and poorly sustained.

Blood Culture = Haemolytic Streptococci.

Wassermann = Negative.

Catheter specimen of urine = Epithelial and granular casts. Pus cells. No organisms.

Uterine Culture = Not taken.

Blood Picture = Erythrocytes = 3,640,000.

Haemoglobin = 64%. Colour

Index = .8. Leucocytes =

24,800. Polymorphs = 78%.

Lymphocytes = 19%. Large  
 mononuclears = 2%. Eosinophils =  
 1%.

Treatment and Progress: Glycerine Treatment. Femergin  
 Milk and carbohydrate diet. Mist Pot Cit et Sod Bic.  
 Mist Bism Subnit.

As seen from the chart patient ran an intermittent  
 temp. for 4 weeks. The pulse was really faster than  
 the chart indicates. Although no diarrhoea patient  
 had abdominal pain and vomited on and off for three  
 weeks. She evidently had a pelvic cellulitis with  
 some peritonitis which settled down after three weeks.  
 Glycerine Treatment carried out for 29 days as there  
 was a purulent uterine discharge. This cleared up  
 after the temp. came down at the end of the 4th week.  
 Patient then put on a mixed vaccine plus usual  
 tonics, light treatment etc. After 59 days in  
 hospital patient was transferred to the Infirmary on  
 account of the thickening in both broad ligaments  
 and ? pus infection of right and left fallopian tubes.  
 General condition very much improved. No uterine  
 discharge.

Number of days in hospital = 59.

Number of days duration of

fever in hospital = 33.





Patient's Name \_\_\_\_\_

Information to be sent to \_\_\_\_\_

Notified as \_\_\_\_\_ by Dr \_\_\_\_\_

Admitted to Ward No.

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as \_\_\_\_\_

<i>Patient's Name</i>	<i>Information to be sent to</i>
<i>Notified as</i>	<i>by Dr</i>
<i>Admitted to Ward No</i>	
<i>Transferred to Ward No</i>	<i>date</i>
<i>Discharged date</i>	<i>as</i>







Patient's Name \_\_\_\_\_

Information to be sent to:

Notified as \_\_\_\_\_ by Dr \_\_\_\_\_

Admitted to Ward No.

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as \_\_\_\_\_

<i>Patient's Name</i>	
<i>Information to be sent to</i>	
<i>Notified as</i>	<i>by Dr.</i>
<i>Admitted to Ward No.</i>	
<i>Transferred to Ward No.</i>	<i>date</i>
<i>Discharged date</i>	<i>as</i>

Case 103.

Mrs. H. Aet 26 years. Primipara. Previous Infectious diseases = nil.

History: 30/1/29. Forceps delivery - Right occipito-posterior. Patient delirious and violent following delivery. 4/1/29 Elevated temp.

Admitted to hospital on the 8th day of the puerperium and 78th day of disease. Temp. 100, Pulse 124.

Clinical Notes: Patient is quiet on admission and looks fairly well. Abdomen: Uterus firm. Position normal but definitely tender on pressure. Heart: some dilatation of left ventricle. Faint blowing systolic murmur propagated into the left axilla. Perineum: lacerated. Vagina: lacerated (both walls) Cervix: Anterior and posterior lips torn. Discharge of blood from uterus, slight in amount.

Blood Culture = Negative on admission.

Haemolytic Streptococci  
present on 12/2/29.

Wassermann = Negative.

Catheter specimen of urine = No casts, pus  
cells +++, B. Coli +++.

Uterine Culture = Not taken.

Blood Picture = Erythrocytes = 3,090,000.

Haemoglobin = 56%. Colour  
Index = .9. Leucocytes =  
8,200. Polymorphs = 83%.

Lymphocytes = 15%. Large  
mononuclears = 1%. Eosino-  
phils = 1%.

Treatment and Progress: 50 c.c. antistreptococcal serum (puerperal) on day of admission.

Glycerine Treatment. Femergin. Iodine douches.

Mist Pot Cit et Sod Bic.

Swinging temp. between 102, 104 and 99 for 12 days.

A second blood culture taken off when temp. reached 104, showed the presence of haemolytic streptococci in the blood.

On 13th and 14th days of admission temp. subnormal, but on evening of 15th day of admission temp. rose and on 16th day of admission temp. was 101.6.

Pulse was fast all along and never much below 120.

Temp. then normal for a further 5 days but pulse not satisfactory, increasing in rate to over 120.

Complaint of pain on movement of left shoulder joint.

No swelling present.

In 4th week temp. swinging again. Pain in left shoulder joint, no swelling. Apparently a severe arthralgia. Patient thin and looks ill. Possible streptococcal involvement of left shoulder joint. No swelling present. Marked Bronchitis now present.

Expectoration of thick purulent sputum; usual expectorant mixtures given (Mist Pot Iod, Tinct Scillae). Pulse became faster and very soft. Patient dying of septicaemia on 28th day of admission.

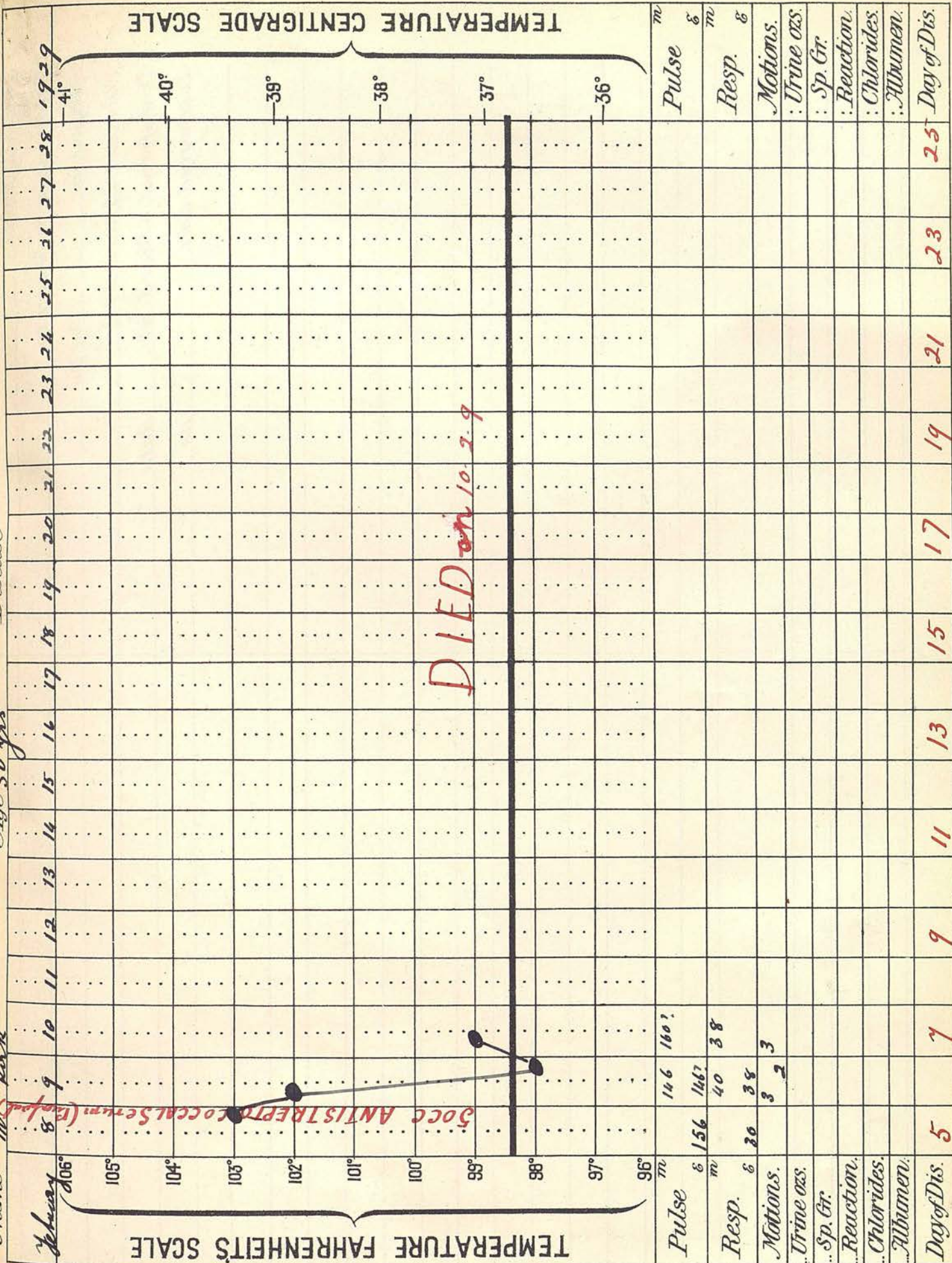
Number of days in hospital = 28.

Number of days duration of

fever in hospital = 20.



TEMPERATURE CENTIGRADE SCALE



DIED on 10.3.9

50cc ANTISTREPTOCOCAL Serum (R. 1000)

Day of Quorum.	5	7	9	11	13	15	17	19	21	23	25-
Day of Quorum.	5	7	9	11	13	15	17	19	21	23	25-

Patient's Name:

Information to be sent to \_\_\_\_\_

Notified as \_\_\_\_\_ by Dr \_\_\_\_\_

Admitted to Ward No. \_\_\_\_\_

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as \_\_\_\_\_

<i>Patients Name</i>	<i>Information to be sent to</i>
<i>Notified as</i>	<i>by Dr</i>
<i>Admitted to Ward No</i>	<i>date</i>
<i>Transferred to Ward No</i>	<i>date</i>
<i>Discharged date</i>	<i>as</i>



Case 104.

Mrs. K. Aet 30 years. Multipara. Previous infectious diseases = Nil.

History: 4/2/29 Forceps delivery. Temp. since delivery with shivering and abdominal pain.

Admitted to hospital on the 5th day of the puerperium and 5th day of disease. Temp. 103, pulse 156.

Clinical Notes: Patient looks extremely ill indeed. Face pallid and ashen grey in colour. Pulse very rapid and thready. Patient complains of pain over the umbilicus. Abdomen: markedly distended and swollen. Fundus of uterus on level with umbilicus and slightly to the left. Tender on pressure. Abdominal wall rigid, does not move on respiration. Marked general tenderness - general peritonitis. Cervix, Vagina and Perineum: not examined, patient too ill.

Blood Culture = Haemolytic streptococci.

Wassermann = Negative.

Catheter specimen of urine = A few granular casts, no pus cells, no organisms.

Uterine Culture = Not taken.

Blood Picture = Erythrocytes = 2,730,000.

Haemoglobin = 40%. Colour

Index = .7. Leucocytes =

5,800. Polymorphs = 79%.

Lymphocytes = 19%. Large

Mononuclears = 1%. Baso-

phils = 1%.

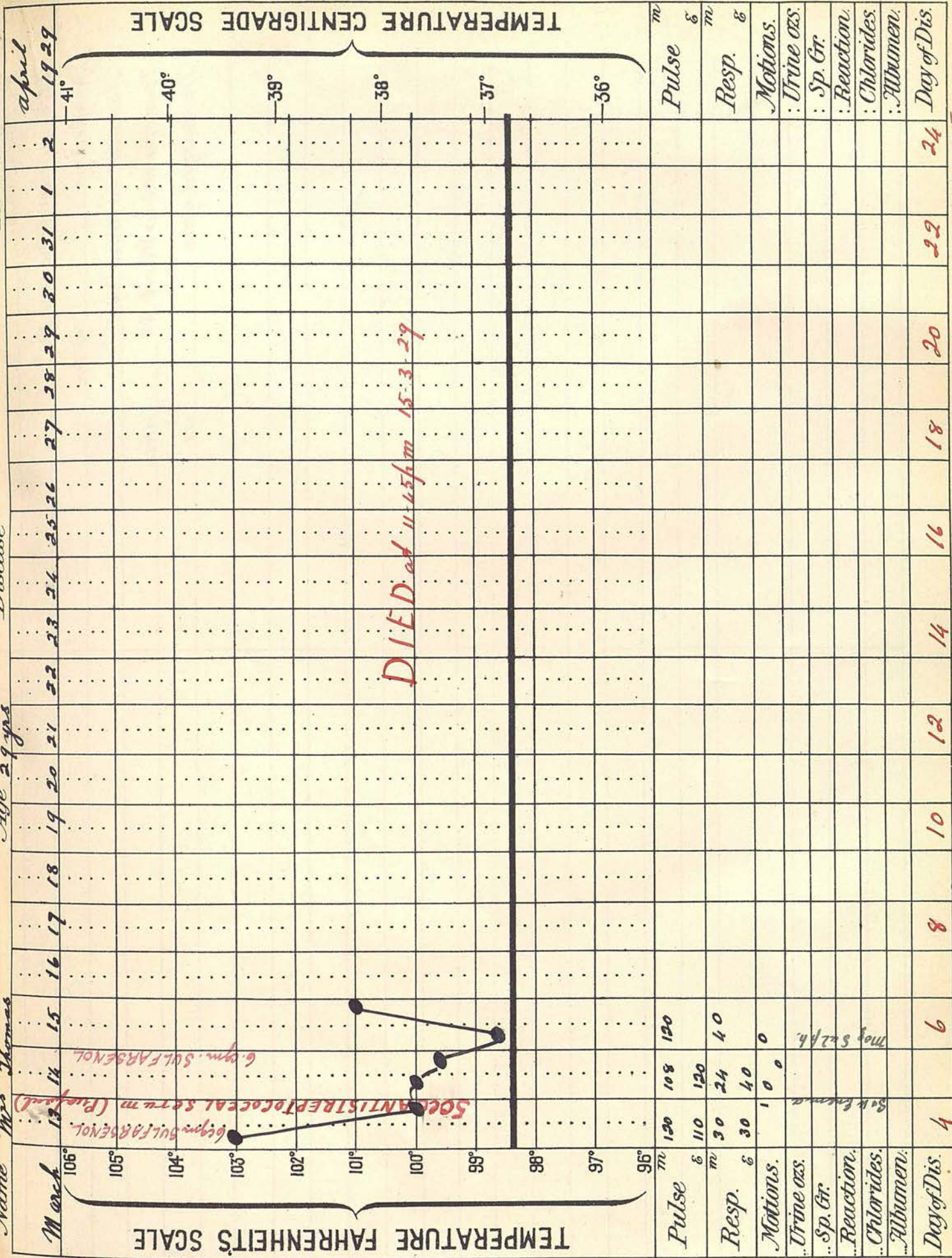
Treatment and Progress: 50 c.c. antistreptococcal serum (puerperal) on day of admission. General palliative measures for general peritonitis.

On the day following admission temp. 102, pulse difficult to ascertain, about 150. Patient died two days after admission of septicaemia and general peritonitis. Note the poor response of the Leucocytes (5,800).

Number of days in hospital = 23 (30 hours)

Number of days duration of

fever in hospital = 23 (30 hours).



Day of Completion 5





Case 105.

Mrs. T. Aet 29 years. Multipara. Previous Infectious Diseases = nil,

History: 9/3/29. Baby born - no history of manner of delivery. 10/3/29. Temp. 99.4, Pulse 70. 11/3/29 Headache, shivering, general aches and pains. Temp. 100.6, Pulse 100. 12/3/29 Temp. 102.4, Pulse 112. Admitted to hospital on the 5th day of the puerperium and 4th day of disease. Temp. 103, Pulse 120.

Clinical Notes: Patient pale and looks very ill.

Abdomen: Fundus of uterus situated just to the right of the umbilicus. Uterus very tender, soft and boggy on palpation. Some rigidity and tenderness in the right and left iliac fossae.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = no casts, no pus cells, no organisms.

Uterine Culture = Not taken.

Blood Picture = Erythrocytes = 3,170,000.

Haemoglobin = 42%. Colour

Index = .6. Leucocytes =

10,200. Polymorphs = 86%.

Lymphocytes = 13%. Large

Mononuclears = 1%.

Treatment and Progress: 50 c.c. antistreptococcal serum (puerperal) on day of admission.

Femergin. Subcutaneous salines. Sulfarsenol 6 cgm. daily for 2 days. Alternately Camphor in oil gr.  $\frac{iii}{100}$

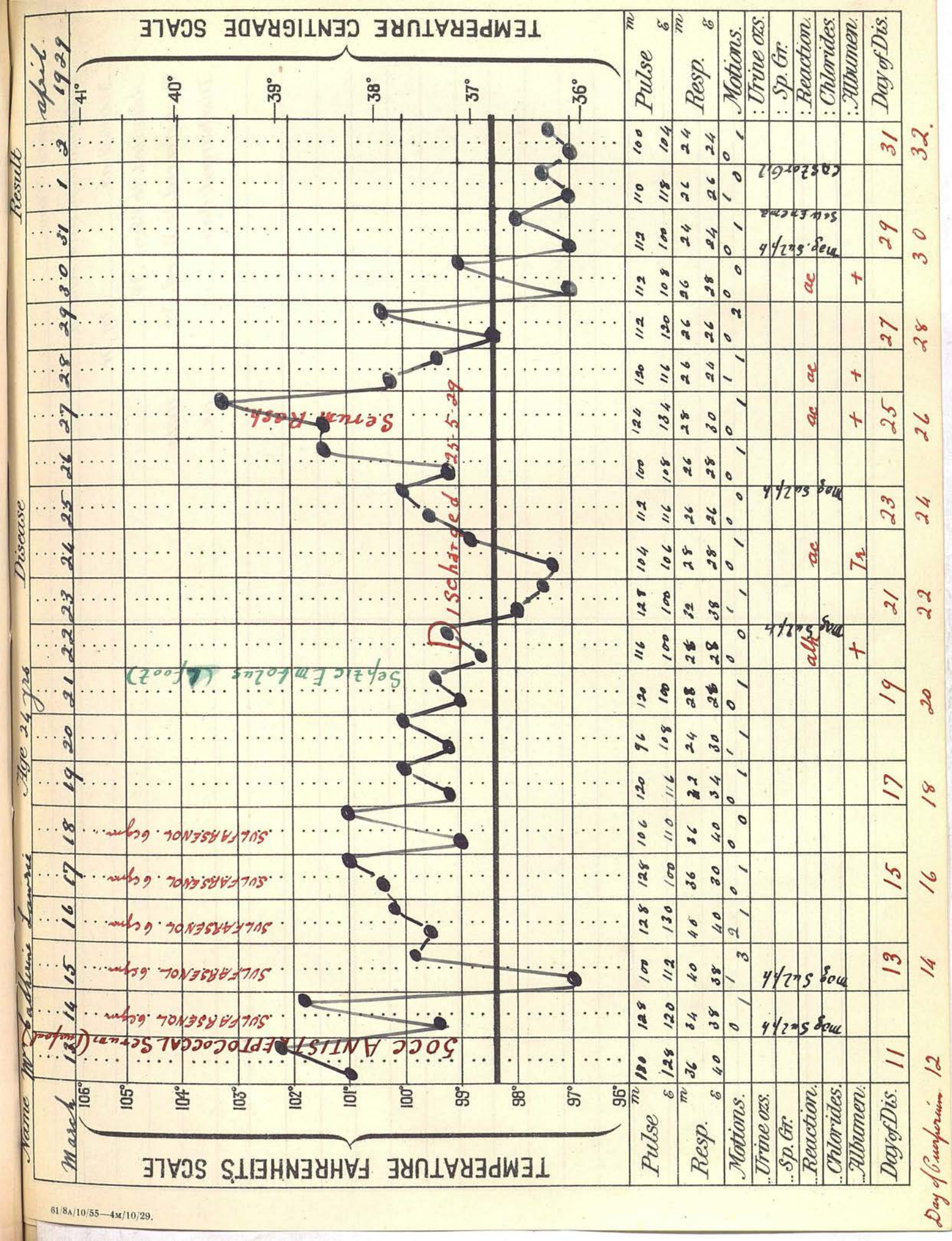


(intramuscularly) and Caffein Sodium Salicylate gr.ii (intramuscularly) every 4 hours. Rectal Salines. Champagne. Blood transfusion was performed on day of admission (indirect citrate method). Patient never rallied and died of septicaemia on 3rd day of admission.

Number of days in hospital = 3

Number of days duration of

fever in hospital = 3.





Patient's Name:

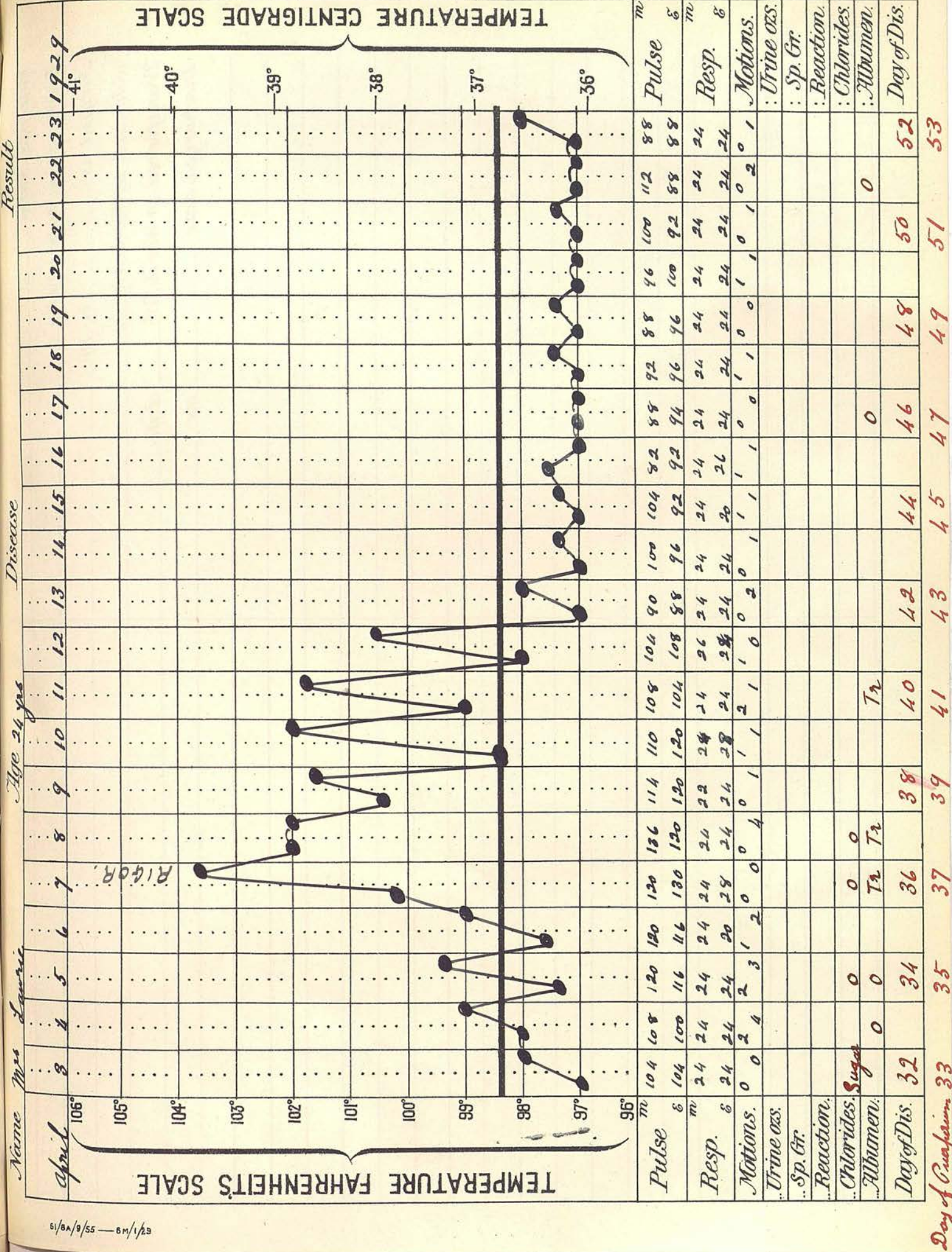
Information to be sent to \_\_\_\_\_

Notified as \_\_\_\_\_ by Dr \_\_\_\_\_

Admitted to Ward No.

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date                      *as*                     [illegible]









74

## Result

*Discrete*

Name Mrs L

Patient's Name:

*Information to be sent to:*

Notified as \_\_\_\_\_ by Dr. \_\_\_\_\_

Admitted to Ward No.

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as

[illegible]



Name Mrs Laurie										Age 24 yrs										Disease										Result									
May										16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	June 1929									
106°																														-41°									
105°																																							
104°																														-40°									
103°																																							
102°																														-39°									
101°																																							
100°																														-38°									
99°																														-37°									
98°																														-36°									
97°																																							
96°																																							
Pulse										80	76	72	84	78	80	80	72	76	80											m									
Resp.										84	84	88	96	96	78	80	80	70												m									
Motions.										0	0	0	0	0	0	0	0	0	1											m									
Urine ozs.																																							
Sp. Gr.																																							
Reaction.																																							
Chlorides.																																							
Albumen.																																							
Day of Dis.										74	76	78	79	81	80	82	84	86	88	90	92	94							m										
Day of Quarantine										75	74	74	79	81	80	82	84	86	88	90	92	94							m										

TEMPERATURE FAHRENHEIT'S SCALE

TEMPERATURE CENTIGRADE SCALE



Day of Quarantine 75

Patient's Name:

Information to be sent to:

Notified as \_\_\_\_\_ by Dr \_\_\_\_\_

Admitted to Ward No.

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as \_\_\_\_\_

[illegible]



Case 106.

Mrs. C.L. Aet 24 years. Multipara. Previous Infectious Diseases = Nil.

History: 2/3/29 Normal Delivery. 3/3/29 Shivering, Scanty lochia.

Admitted to hospital on the 12th day of the puerperium and 11th day of disease. Temp. 101, Pulse 120.

Clinical Notes: Patient looks very ill. Flush on both cheeks. Respirations rapid about 40.

Abdomen: uterus appears a little enlarged. Tender on pressure. Tenderness in the right iliac fossa.

Cervix: not well enough seen, as very oedematous, swollen and red. Some lacerations present.

Vagina: walls badly lacerated. Perineum: torn.

Lungs: well marked extensive broncho-pneumonic condition in both lungs. Heart: 1st mitral sound soft.

2nd pulmonary sound accentuated. Liver; not enlarged.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = No casts, no pus cells, no organisms.

Uterine Culture = Not taken.

Blood Picture = Erythrocytes = 2,150,000.

Haemoglobin = 35%. Colour

Index = .8. Leucocytes =

25,600. Polymorphs = 90%.

Lymphocytes = 6%. Large

mononuclears = 2%.

Myelocytes = 2%.



Treatment and Progress: 50 c.c. antistreptococcal serum (puerperal) on day of admission.

Tinct Digitalis M  $\overline{XV}$  4 hourly. Femergin. Plenty of fluids etc. Sulfarsenol 6 cgm. daily for 5 days.

Iodine douches and local treatment to vagina.

After admission temp. stayed elevated and pulse fast. 5 days after admission left leg became swollen.

8 days after admission left foot more swollen. The large toe swollen, bluish in colour and colder than right toe. Evidently a commencing gangrene due to septic embolus. Patient put on Sod nitrite gr.  $\overline{ii}$  t.i.d. and affected <sup>part</sup> wrapped up in cotton wool. A day or two later affected toe more blue in colour and colder to touch.

14 days after admission temp. 103.2, Pulse 130.

Patient developed a generalised urticarial serum rash. Dorsum of right foot discoloured in its distal half. 2nd toe of the left foot bluish in colour.

18 days after admission temp. settled but pulse remained fast. Lung condition clearing up very well.

On her 26th day of admission patient had a rigor and temp. rose to 103.6, Pulse 130. Temp. swung away for another 5 days and then became subnormal with a

quieter pulse. The dry gangrene of the left big toe quite limited, but skin broke down and there was an open wound in the gangrenous toe. However luckily

the condition remained strictly localised to the toe

and after a further 3 weeks the <sup>phalanx</sup> terminal of the big toe

were extruded and removed. The condition ultimately

settled down, patient's general condition very much improved. The lung condition clearing up well. The patient was allowed to proceed home after 74 days in hospital. The affected large toe on discharge looked quite healthy but the wound had not healed, but the granulations around it were healthy. Considering everything in this case although the blood culture was negative, I consider the patient had a septicaemia.

Number of days in hospital = 74.

Number of days duration of

fever in hospital = 26.





96°	97°
-----	-----

[illegible]

DIED at 14-5-29

Day of D

Day of L

9



Patient's Name \_\_\_\_\_

Information to be sent to \_\_\_\_\_

Notified as \_\_\_\_\_ by Dr. \_\_\_\_\_

Admitted to Ward No. \_\_\_\_\_

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as \_\_\_\_\_

[illegible]



## Results

Disease

Name Mrs Mrs L

Patient's Name \_\_\_\_\_

*Information to be sent to:*

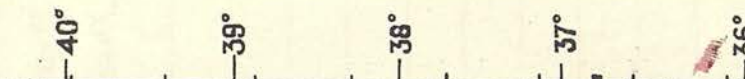
Notified as \_\_\_\_\_ by Dr. \_\_\_\_\_

Admitted to Ward No.

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as \_\_\_\_\_

TEMPERATURE CENTIGRADE SCALE



Pulse

*Resp.*

*Motions.*

: Urine ozs

*Reaction:*

: Chlorides

*Day of Dis*

71

Patient's Name:

Information to be sent to:

Notified as \_\_\_\_\_ by Dr. \_\_\_\_\_

Admitted to Ward No.

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as \_\_\_\_\_

[illegible]



Case 107.

Mrs. M.L. Aet 44 years. Primipara. Previous Infectious Diseases = unknown.

History: 21/3/29. Delivery - nature unknown.

No history regarding this case.

Admitted to hospital on the 8th day of the puerperium and ? day of disease. Temp. 101, Pulse 120.

Clinical Notes: Patient pale and anaemic.

Abdomen: somewhat distended. Some thickening and tenderness low down in the right iliac fossa. Fundus of the uterus not palpable. Very foul dirty brown profuse uterine discharge. Cervix: Both lips swollen no congestion catarrh or lacerations. Vagina: normal. Perineum: normal.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = No casts, B.

Coli and numerous pus cells in 6th week.

Uterine Culture = Non-haemolytic Streptococci.

Blood Picture = Erythrocytes = 3,200,000.

Haemoglobin = 40%. Colour

Index = .6. Leucocytes =

13,000. Polymorphs = 80%.

Lymphocytes = 12%. Large

mononuclears = 7%. Eosino-

phils = 1%.

Treatment and Progress: Glycerine Treatment.

Femergin. Sulfarsenol 12 cgms. daily, for 5 days.

Temp. continued high for almost 4 weeks. On 27th day of admission when patient had a rigor and temp. of 104.8 another blood culture was taken off and was sterile.

5 days after admission - palpable swelling in the left iliac fossa - pelvic cellulitis.

Patient also suffered from some pelvic peritonitis.

11 days after admission - patient had a rigor - signs of pleurisy in the right axilla. Both ankles swollen. Left calf swollen -  $\frac{1}{2}$  inch broader than right calf.

14 days after admission patient still very ill.

Well marked left sided parametritis.

Glycerine and Ichthyol tampons inserted.

18 days after admission - consolidation at right base. No fluid.

21 days after admission - abscess in right thigh opened - contained streptococci and a few staphylococci.

At end of 6th week - well marked B. Coli pyelitis.

Pulse poor. Patient sinking, taking no interest in surroundings whatsoever. Put on Tinct Digitalis M.  $\overline{XV}$  t.i.d. and a course of collosol iodine intravenously given (see chart).

Patient however died on 47th day of admission - septicaemia.

Note Primipara. Aet 44 years.

Number of days in hospital = 47.

Number of days duration of

fever in hospital = 39.







## Results

*Miscellaneous:*

Apr 18 1891

5:11

Wäime Mrs M

Patient's Name:

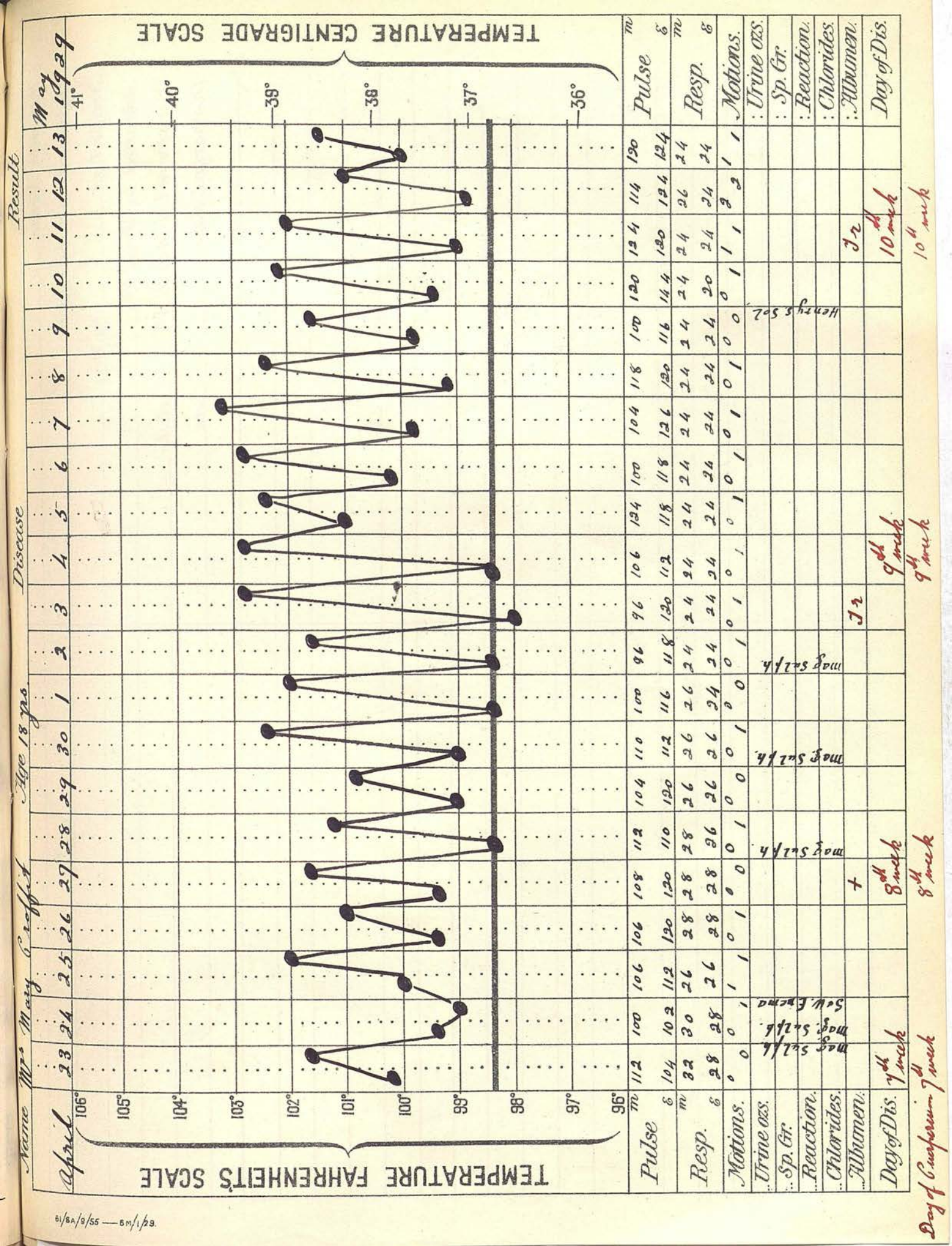
Information to be sent to:

Notified as \_\_\_\_\_ by Dr \_\_\_\_\_

Admitted to Ward No.

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as \_\_\_\_\_





Patient's Name

Information to be sent to

Notified as by Dr.

Admitted to Ward No.

Transferred to Ward No. date

Discharged date as

Dr.

Mr. & Mrs.

Name Mrs. M. C. 111

TEMPERATURE FAHRENHEIT'S SCALE

Day of Exuperium

11 much

12<sup>th</sup> week

13<sup>th</sup> week

TEMPERATURE FAHRENHEIT SCALE														TEMPERATURE CENTIGRADE SCALE																											
MAY														JUNE																											
106°														41°																											
105°														40°																											
104°														39°																											
103°														38°																											
102°														37°																											
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Patient's Name:

Information to be sent to:

Notified as \_\_\_\_\_ by Dr \_\_\_\_\_

Admitted to Ward No.

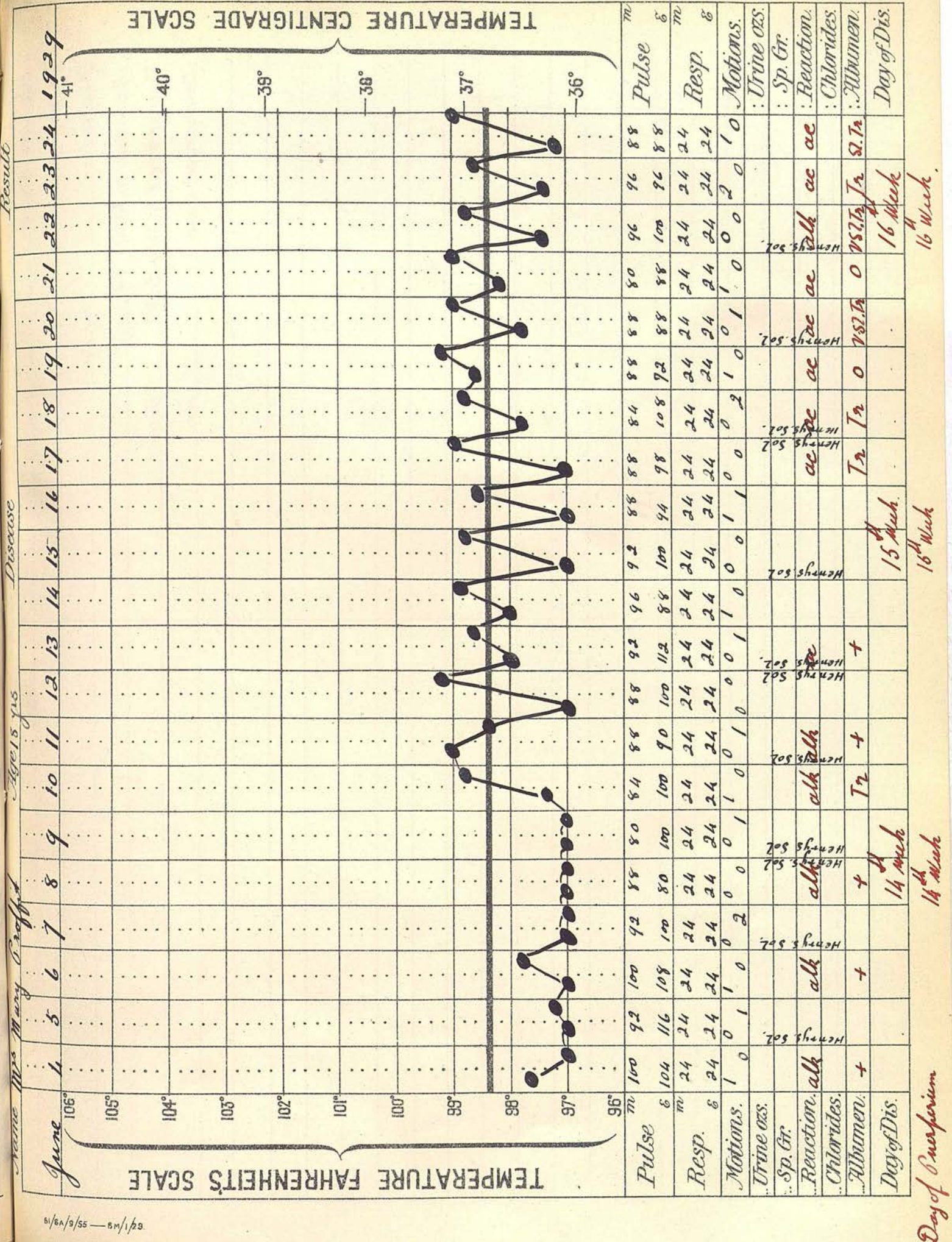
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Discharged date \_\_\_\_\_ as \_\_\_\_\_

Discrete

Apr 18 1918

Name Mrs Mary Groll





Patient's Name

Information to be sent to

Notified as by Dr

Admitted to Ward No

Transferred to Ward No date

Discharged date as

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[illegible]

Results:

Disease

Apr 18 yrs

Name Mrs Mary Probst

Patient's Name \_\_\_\_\_

Information to be sent to \_\_\_\_\_

Notified as \_\_\_\_\_ by Dr \_\_\_\_\_

Admitted to Ward No. \_\_\_\_\_

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as \_\_\_\_\_





Patient's Name \_\_\_\_\_

Information to be sent to:

Notified as \_\_\_\_\_ by Dr-

Admitted to Ward No. \_\_\_\_\_

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as \_\_\_\_\_

[illegible]



Case 108.

Mrs. M.P. Aet 18 years. Primipara. Previous Infectious Diseases = unknown.

History: Admitted to Maternity Hospital with albuminuria and high blood pressure. On 2/3/29 Twins born. Much manipulation during the 2nd stage patient "shocked" and collapsed. Temp. for 6 or 7 days following. Offensive lochia. Ran a high temp. (104). Pyelitis developed 31/3/29. Blood Culture showed streptococci to be present in the blood. 60 c.c. antistreptococcal serum given.

Admitted to hospital on the 31st day of the puerperium and 31st day of disease. Temp. 105, Pulse 120.

Clinical Notes: Patient pale - face ashen grey colour. Looks ill. Tongue furred. Abdomen: moves on respiration. Diffuse tenderness but no rigidity. Tenderness in both iliac fossae. An indefinite swelling apparently in the right iliac fossa. Liver: edge soft and palpable  $2\frac{1}{2}$  inches below the left costal margin appears enlarged. Spleen: palpable not tender.

Lungs: Vesicular breathing with some crepitations at both bases.

Blood Culture = Haemolytic Streptococci  
Wassermann = Negative.

Catheter specimen of urine = No casts, a few pus cells and red blood corpuscles, B. Coli present.

Uterine Culture = not taken.

Blood Picture = Erythrocytes = 4,200,000.

Haemoglobin = 5%. Colour Index =

.6. Leucocytes = 16,000.

Polymorphs = 79%. Lymphocytes =

14%. Large mononuclears = 5%.

Eosinophils = 2%.

Dick Test = Negative (32nd day of disease).

	<u>Ankle</u>	<u>Calf</u>	<u>Knee</u>	<u>Thigh</u>	
Right Leg	7½	10½	12½	16½	} Inches.
Left Leg	8½	11½	13¼	17¼	

(Phlegmasia Alba Dolens) on 5/4/29.

Treatment and Progress: Femergin. Glycerine and Ichthyol tampons. Mist Pot Cit et Sod Bic.

50 c.c. antistreptococcal serum (puerperal) on day of admission 2/4/29.

3/4/29 Swelling and tenderness on moving the right shoulder joint - arthritis.

5/4/29 Phlegmasia Alba Dolens - left leg. Also swelling and tenderness on moving the right and left elbow joints. Soft systolic mitral murmur.

No enlargement of the heart. Sulfarsenol 12 cgm. given daily for 7 days.

8/4/29 Abscess forming at the base of the sacrum.

Elbow joints and right shoulder joint very painful - septic arthritis.

For another 10 days patient continued to have rigors with a high swinging temp.

18/4/29. Abscess over spine of left scapula incised - pus obtained which contained streptococci.

19/4/29. Abscess involving right shoulder joint incised - pus contained streptococci.

20/4/29 Abscess over sacrum incised - pus contained streptococci.

22/4/29 Abscess involving the right and left elbow joints incised - pus contained streptococci.

After opening these pyaemic abscesses drainage tubes were inserted, and they were treated in the usual way with hot boric fomentations.

For a further 3 weeks patient kept running a swinging temp. - the pulse though fast was never much over 120 which was hopeful.

13/5/29 Elbows and shoulder still very painful and tender. Joints quite stiff and immobile. Free discharge of pus from incisions in elbows, shoulder and back. Patient seems slightly better. Sleeping fairly well during the night.

14/5/29. A course of colossal manganese commenced - .5 c.c. daily for 7 days. Three days after the end of this course temp. fell to normal. Patient improved feels better.

At end of 9th week temp. normal, pulse still a little fast. Wounds in shoulder, elbows and over spine of left scapula practically dry. Large raw area however over sacrum - the sacrum itself was exposed.

Patient for a further six weeks ran a slight temp. in the evenings but the large cavity in the back gradually healed by secondary intention under careful local treatment with red lotion, scarlet red ointment,



eusol and saline dressings etc. The raw area on the back was also exposed for short periods to the ultra-violet rays from a mercury vapour lamp which I think helped granulation immensely. Stiff joints given massage and movements. Patient allowed up after  $13\frac{1}{2}$  weeks and discharged after 117 days in hospital. General condition very good. Back healed. Elbow joints ankylosed - but position good. Stiffness of right shoulder joint but movements good. Patient however able to dress herself, feed herself and generally fend for herself. This was a remarkable case to recover after suffering from severe septicaemia and pyaemia.

Number of days in hospital = 117.

Number of days duration of

fever in hospital = 67.

Result

Disease

Age 35 years.

Name Mrs. Sydnerff.

TEMPERATURE FAHRENHEIT'S SCALE

TEMPERATURE CENTIGRADE SCALE

April	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	1929
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Pulse	120																					
Resp.	30																					
Motions.	1																					
Urine ozs.																						
Sp. Gr.																						
Reaction.																						
Chlorides.																						
Albumen.																						
Day of Dis.	6																					

20. C. &amp; SCARLET FEVER ANTITOXIN.

DIED AT 5 1/4 A.M. 7-4-29.

Day of Incubation 6

8

10

12

14

16

18

20

22

24

26.

Patient's Name: \_\_\_\_\_

Information to be sent to:

Notified as \_\_\_\_\_ by Dr \_\_\_\_\_

Admitted to Ward No. \_\_\_\_\_

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as \_\_\_\_\_

[illegible]



Case 109.

Mrs. S. Aet 35 years. Multipara. Previous Infectious Diseases = unknown.

History. 31/3/29. Normal delivery. Been running a high temp. with rigors since delivery. Complaint also of thirst and headache.

Admitted to hospital on the 6th day of the puerperium and 76th day of disease. Temp. 103.8, Pulse 130.

Clinical Notes: Patient appears very ill. Skin and hot and moist. Lips and cheek show cyanotic tint. Extremities cold. Mouth: dry. Tongue: furred and dry. Abdomen: moves well on respiration. Uterus midway between umbilicus and pubis, fundus firm but tender on pressure.

No tenderness on palpation in the iliac fossae or in upper quadrant of abdomen. Spleen just palpable, not tender. Heart: pulse regular but waves feeble. Heart itself not enlarged. Apex beat diffuse. 1st sound in mitral area short and sharp. No murmurs audible. 2nd sound at base accentuated. Lungs: vesicular breathing with crepitations at the right base.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = Not taken.

Uterine Culture = Not taken.

Blood Picture = Erythrocytes = 4,450,000.

Haemoglobin = 72%. Colour In-

dex = .8. Leucocytes = 15,800.

Polymorphs = 82%.

Lymphocytes = 10%. Large

mononuclears = 7%. Eosinophils = 1%.

Treatment and Progress:

On the morning following admission given 20 c.c. Scarlet Fever Antitoxin.

Femergin.

Patient much too ill to be moved about in bed so I obtained no view of the cervix, vagina, etc.

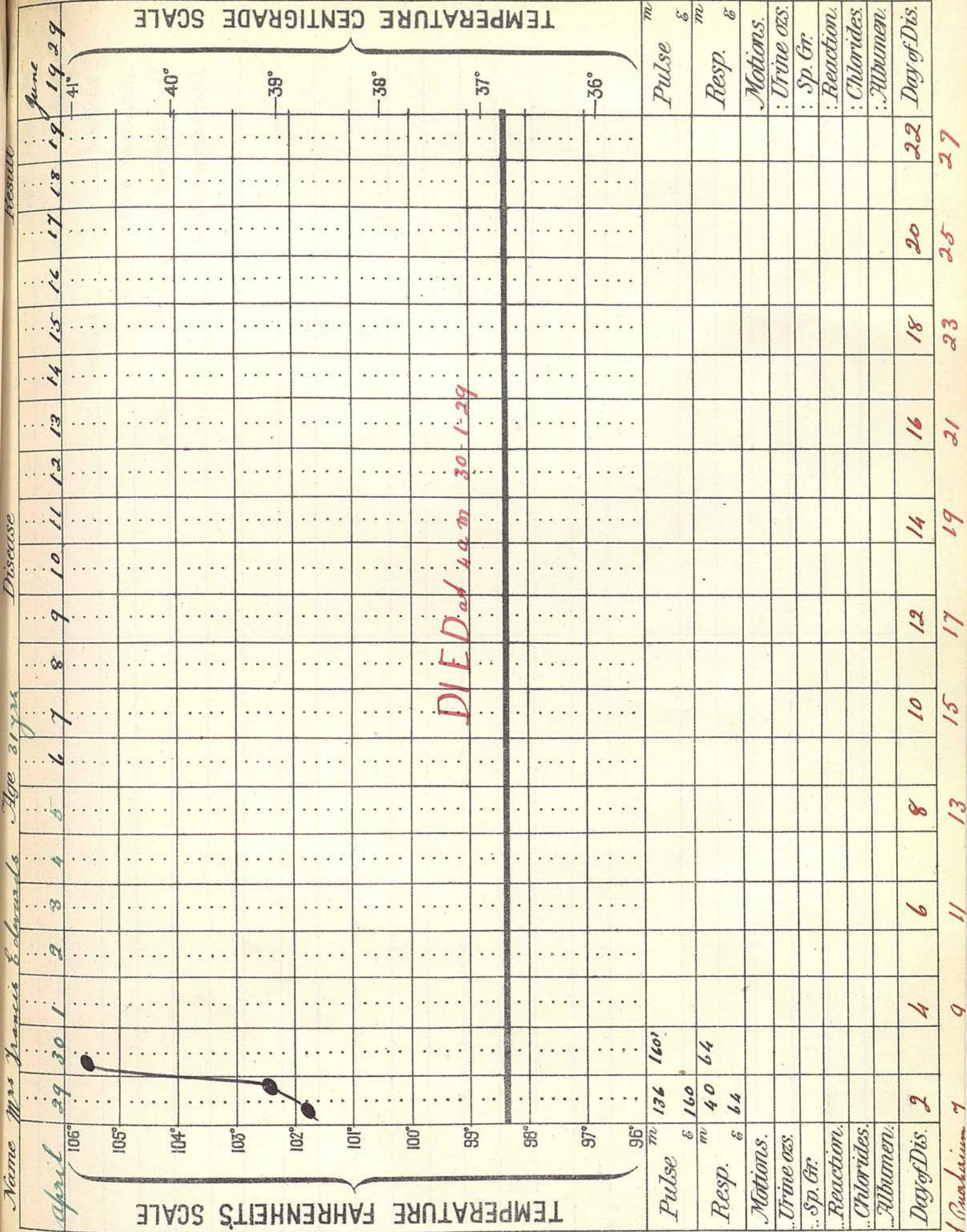
Patient died of septicaemia within 30 hours of admission.

Number of days in hospital = 1.

Number of days duration of

fever in hospital = 1.





DIE Dad 49m 30-1-29



Case 110.

Mrs. F.E. Aet 31 years. Primipara. Previous Infectious Diseases = nil.

Patient suffered from pleurisy during pregnancy.

History: 23/4/29 Breech Presentation - delivery after much manipulation and examination. 28/4/29 Rise of temp. Patient delirious.

Admitted to hospital on the 7th day of the puerperium and 2nd day of disease. Temp. 102, Pulse 136 to 160.

Clinical Notes: Patient very ill indeed. Only cursory examination possible. Cyanosed, breathless, conscious but too ill to answer questions. Pulse regular but very rapid. Heart: enlarged to the right and left. Action rapid with a presystolic murmur Thrill present over region of apex beat which though slapping is diffuse in character. Harsh presystolic murmur in the region of the left nipple. Elsewhere the sounds are closed, but are short, sharp and accentuated.

Lungs: A patch of dullness at the left base.

Breath sounds tubular.

Crepitations at both bases.

Abdomen: tumid but no marked tenderness on palpation.

Uterus firm - no tenderness over it. Fundus  $1\frac{1}{2}$  inches below the umbilicus. No tenderness over the Broad Ligaments.

Patient much too ill to be put up in the lithotomy position for examination of Cervix, Vagina and Perineum.



Blood Culture = Haemolytic Streptococci.

Wassermann = Not taken.

Catheter specimen of urine = Not taken.

Uterine Culture = Not taken.

Blood Picture = Erythrocytes = 4,250,000.

Haemoglobin = 75%. Colour Index = .9. Leucocytes = 12,000.

Polymorphs = 74%. Lymphocytes = 24%. Eosinophils = 2%.

Treatment and Progress:

Patient died within 16 hours of admission -  
septicaemia on top of mitral stenosis.

Number of days in hospital = 1.

Number of days duration of  
fever in hospital = 1.

Name	Age	Sex	Low	High	Temp.	Pulse	Resp.	Motions.	Urine ozs.	Sp. Gr.	Reaction.	Chlorides.	Albumen.	Day of Dis.
June	34 yrs	Female	105°	106°	100°	122	30	1	4 1/2	1.020	Acid	+		3
			105°	106°	100°	128	48	0	4 1/2	1.020	Acid	+		5
			105°	106°	100°	130	30	0	4 1/2	1.020	Acid	+		8
			105°	106°	100°	140	30	0	4 1/2	1.020	Acid	+		10
			105°	106°	100°	140	30	0	4 1/2	1.020	Acid	+		12
			105°	106°	100°	140	30	0	4 1/2	1.020	Acid	+		14
			105°	106°	100°	140	30	0	4 1/2	1.020	Acid	+		16
			105°	106°	100°	140	30	0	4 1/2	1.020	Acid	+		18
			105°	106°	100°	140	30	0	4 1/2	1.020	Acid	+		20
			105°	106°	100°	140	30	0	4 1/2	1.020	Acid	+		22
			105°	106°	100°	140	30	0	4 1/2	1.020	Acid	+		24
			105°	106°	100°	140	30	0	4 1/2	1.020	Acid	+		26
			105°	106°	100°	140	30	0	4 1/2	1.020	Acid	+		28
			105°	106°	100°	140	30	0	4 1/2	1.020	Acid	+		30
			105°	106°	100°	140	30	0	4 1/2	1.020	Acid	+		32
			105°	106°	100°	140	30	0	4 1/2	1.020	Acid	+		34
			105°	106°	100°	140	30	0	4 1/2	1.020	Acid	+		36
			105°	106°	100°	140	30	0	4 1/2	1.020	Acid	+		38
			105°	106°	100°	140	30	0	4 1/2	1.020	Acid	+		40
			105°	106°	100°	140	30	0	4 1/2	1.020	Acid	+		42
			105°	106°	100°	140	30	0	4 1/2	1.020	Acid	+		44
			105°	106°	100°	140	30	0	4 1/2	1.020	Acid	+		46
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			105°	106°	100°	140	30	0	4 1/2	1.020	Acid	+		50
			105°	106°	100°	140	30	0	4 1/2	1.020	Acid	+		52
			105°	106°	100°	140	30	0	4 1/2	1.020	Acid	+		54
			105°	106°	100°	140	30	0	4 1/2	1.020	Acid	+		56
			105°	106°	100°	140	30	0	4 1/2	1.020	Acid	+		58
			105°	106°	100°	140	30	0	4 1/2	1.020	Acid	+		60
			105°	106°	100°	140	30	0	4 1/2	1.020	Acid	+		62
			105°	106°	100°	140	30	0	4 1/2	1.020	Acid	+		64
			105°	106°	100°	140	30	0	4 1/2	1.020	Acid	+		66
			105°	106°	100°	140	30	0	4 1/2	1.020	Acid	+		68
			105°	106°	100°	140	30	0	4 1/2	1.020	Acid	+		70
			105°	106°	100°	140	30	0	4 1/2	1.020	Acid	+		72
			105°	106°	100°	140	30	0	4 1/2	1.020	Acid	+		74
			105°	106°	100°	140	30	0	4 1/2	1.020	Acid	+		76
			105°	106°	100°	140	30	0	4 1/2	1.020	Acid	+		78
			105°	106°	100°	140	30	0	4 1/2	1.020	Acid	+		80
			105°	106°	100°	140	30	0	4 1/2	1.020	Acid	+		82
			105°	106°	100°	140	30	0	4 1/2	1.020	Acid	+		84
			105°	106°	100°	140	30	0	4 1/2	1.020	Acid	+		86
			105°	106°	100°	140	30	0	4 1/2	1.020	Acid	+		88
			105°	106°	100°	140	30	0	4 1/2	1.020	Acid	+		90
			105°	106°	100°	140	30	0	4 1/2	1.020	Acid	+		92
			105°	106°	100°	140	30	0	4 1/2	1.020	Acid	+		94
			105°	106°	100°	140	30	0	4 1/2	1.020	Acid	+		96
			105°	106°	100°	140	30	0	4 1/2	1.020	Acid	+		98
			105°	106°	100°	140	30	0	4 1/2	1.020	Acid	+		100

DIED at 5:30 p.m. 4-6-29

TEMPERATURE FAHRENHEIT'S SCALE

TEMPERATURE CENTIGRADE SCALE

Day of Confinement 6



Patient's Name:

Information to be sent to:

Notified as \_\_\_\_\_ by Dr \_\_\_\_\_

Admitted to Ward No.

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as \_\_\_\_\_

[illegible]

Case 111.

Mrs. L. Aet 34 years. Multipara. Previous Infectious Diseases = unknown.

History: Sent to Maternity Hospital with albuminuria and pyelitis. Blood Pressure = systolic 130.

Diastolic = 80 - Toxaemia - 28/5/29. Normal delivery (before bougie induction could be performed) -

short labour - child alive. One vaginal examination made. Progress good - blood pressure dropping from  

$$\frac{140}{100} \text{ (syst.)} \quad \text{to} \quad \frac{116}{70} \text{ (syst.)} \quad \text{in two days.}$$

$$\text{(diast.)} \quad \text{(diast.)}$$

Albumen = .5%. Temp. 99-97.8. 31/5/29 Temp. 101.4.  
 1/6/29 Temp. 104.6, pulse 136, - lochia very slightly offensive. Given 25 c.c. antistreptococcal serum intravenously and 25 c.c. antistreptococcal serum intramuscularly. 2/6/29 Temp. 103.2, Pulse 140.  
 Admitted to hospital on the 6th day of the puerperium and 3rd day of disease. Temp. 103.4, Pulse 130.

Clinical Notes: Tongue dry and coated.

Abdomen: slightly tumid. Fundus of uterus one finger's breadth below the umbilicus - tenderness on palpation. Tenderness over the region of the right broad ligament. Tenderness on palpating right kidney. Abdominal reflexes absent. Spleen just palpable. Liver not enlarged. Knee jerks present and equal. Babinski negative. Pupils react to light. Patient is quite confused, can understand commands but will not reply to questions. Cervix: lacerated. Vagina and Perineum: normal.

Blood Culture = Haemolytic Streptococci.

Wassermann = Negative.

Catheter specimen of urine = A few granular casts. Pus cells. Streptococci present.

Uterine Culture = Not taken.

Blood Picture = Erythrocytes = 3,700,000.

Haemoglobin = 65%. Colour In-

dex = .8. Leucocytes =

16,000. Polymorphs = 83%.

Lymphocytes = 16%.

Eosinophils = 1%.

#### Treatment and Progress:

50 c.c. antistreptococcal serum (puerperal) on day of admission.

Glycerine treatment. Femergin.

On the day following admission patient became quite maniacal and dangerous. Pulse very rapid - temp. high.

Case of puerperal mania. Patient died within 48 hours of admission.

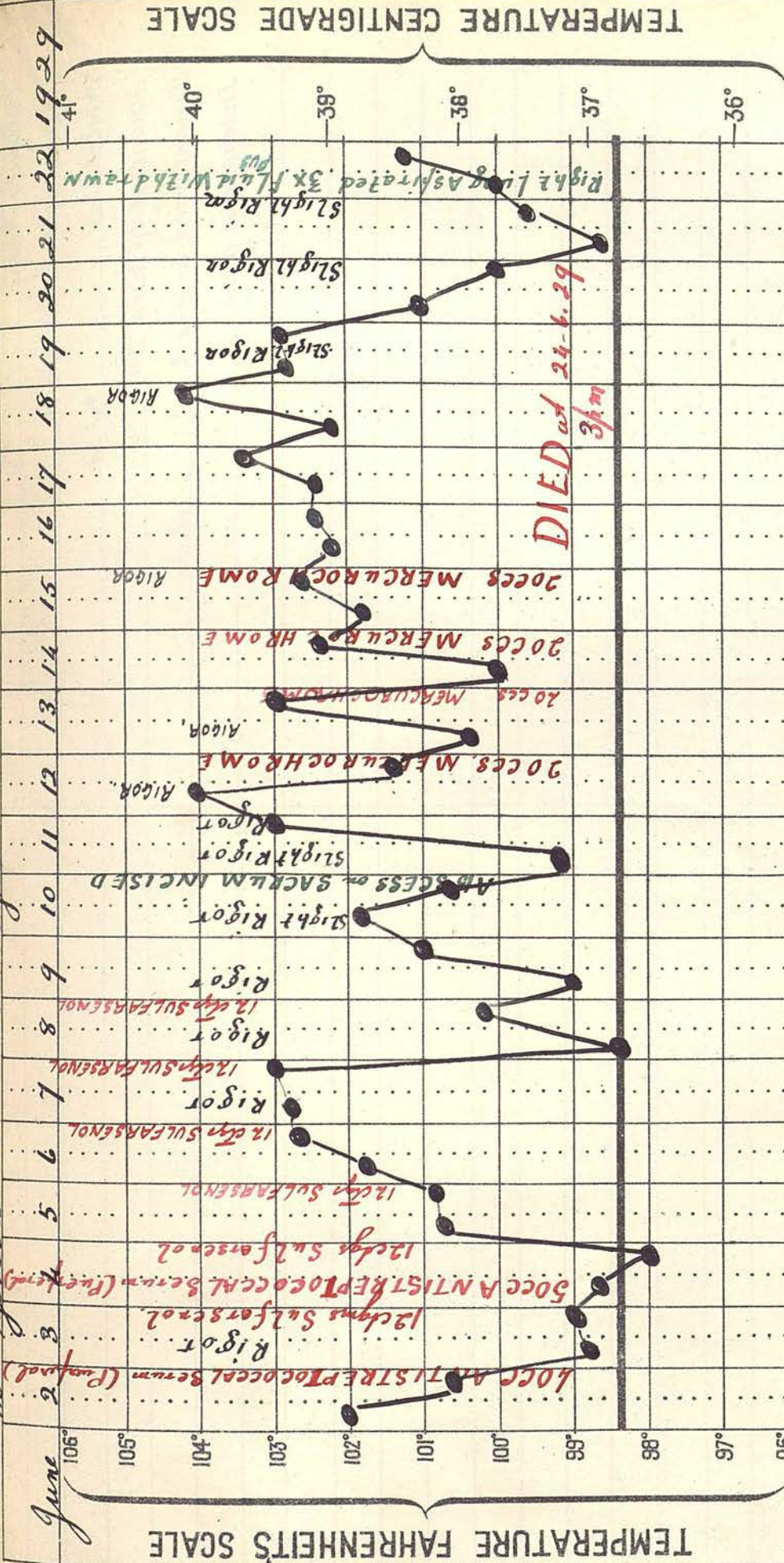
Number of days in hospital = 3 (41 hours in all).

Number of days duration of

fever in hospital = 3 (41 hours).



TEMPERATURE CENTIGRADE SCALE

[illegible]

Day of Confession 8



Patient's Name \_\_\_\_\_

## Discharge

Age 23-25

varne pro hron

Information to be sent to:

Notified as \_\_\_\_\_ by Dr \_\_\_\_\_

Admitted to Ward No.

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as \_\_\_\_\_

[illegible]





Patient's Name:

Information to be sent to \_\_\_\_\_

Notified as \_\_\_\_\_ by Dr \_\_\_\_\_

Admitted to Ward No.

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as \_\_\_\_\_

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Case 112.

Mrs. G. Aet 23 years. Primipara. Previous Infectious Diseases = unknown.

History: 26/5/29 ?Normal Delivery. 1/6/29 Temp. 103, Pulse 120. Lochia offensive.

Admitted to hospital on the 8th day of the puerperium and 3rd day of disease. Temp. 102, Pulse 130.

Clinical Notes: Patient very pale and anaemic, gives a history of severe post partum haemorrhage. Tongue furred. Abdomen: tumid - no rigidity or tenderness. Fundus of uterus three fingers breadth above symphysis, feels slightly nodular, but no tenderness. Cervix: small laceration, erosion around os. Muco-purulent discharge from the uterus, dark brown in colour and offensive smell.

Vagina and Perineum = nothing abnormal to note.

Blood Culture = Haemolytic Streptococci.

Wassermann = Negative.

Catheter specimen of urine = No casts, a few pus cells. No organisms.

Uterine Culture = Haemolytic Streptococci. (Streptococcus Pyogenes)

Blood Picture = Erythrocytes = 2,700,000.

Haemoglobin = 48%. Colour Index =

.9. Leucocytes = 17,400.

Polymorphs = 87%. Lymphocytes =

11%. Large mononuclears = 1%.

Eosinophils = 1%.

Dick Test = Negative (5th day of disease).

Treatment and Progress:

40 c.c. antistreptococcal serum (puerperal) on day of admission.

50 c.c. antistreptococcal serum (puerperal) on 3rd day of admission.

Glycerine Treatment. Femergin. Quin Sulph gr.  $\frac{iii}{iii}$ .  
for 14 days. Mist Pot Cit et Sod Bic. 12 ctgs.  
Sulfarsenol daily for 6 days.

Three days after admission the temp. commenced to rise and 5 days after admission patient commenced to have daily rigors.

8 days after admission abscess on sacrum incised - pus contained streptococci.

10 days after admission patient given 20 c.c. mercurochrome intravenously daily for 4 days. Temp. however continued high 103 and 104. Pulse very fast 146 to 150. Patient looking very ill.

14 days after admission Temp. 104.2, Pulse 150 a patch of dullness with crepitations found at the right base. No absence of breath sounds. Respirations 38 to 40. Put on Tinct Digitalis M. $\overline{xv}$ . 4 hourly.

On 21st day of admission a needle was put in right pleural cavity at the base and 10 ounces of pus withdrawn. Pus contained haemolytic streptococci.

Patient now very toxic and collapsed. On 22nd day of admission 5 ounces of pus aspirated from the right pleural cavity. Patient very collapsed - 1 pint of glucose saline given intravenously. Patient died on the 23rd day of admission - septicaemia and

empyema.

Number of days in hospital = 23.

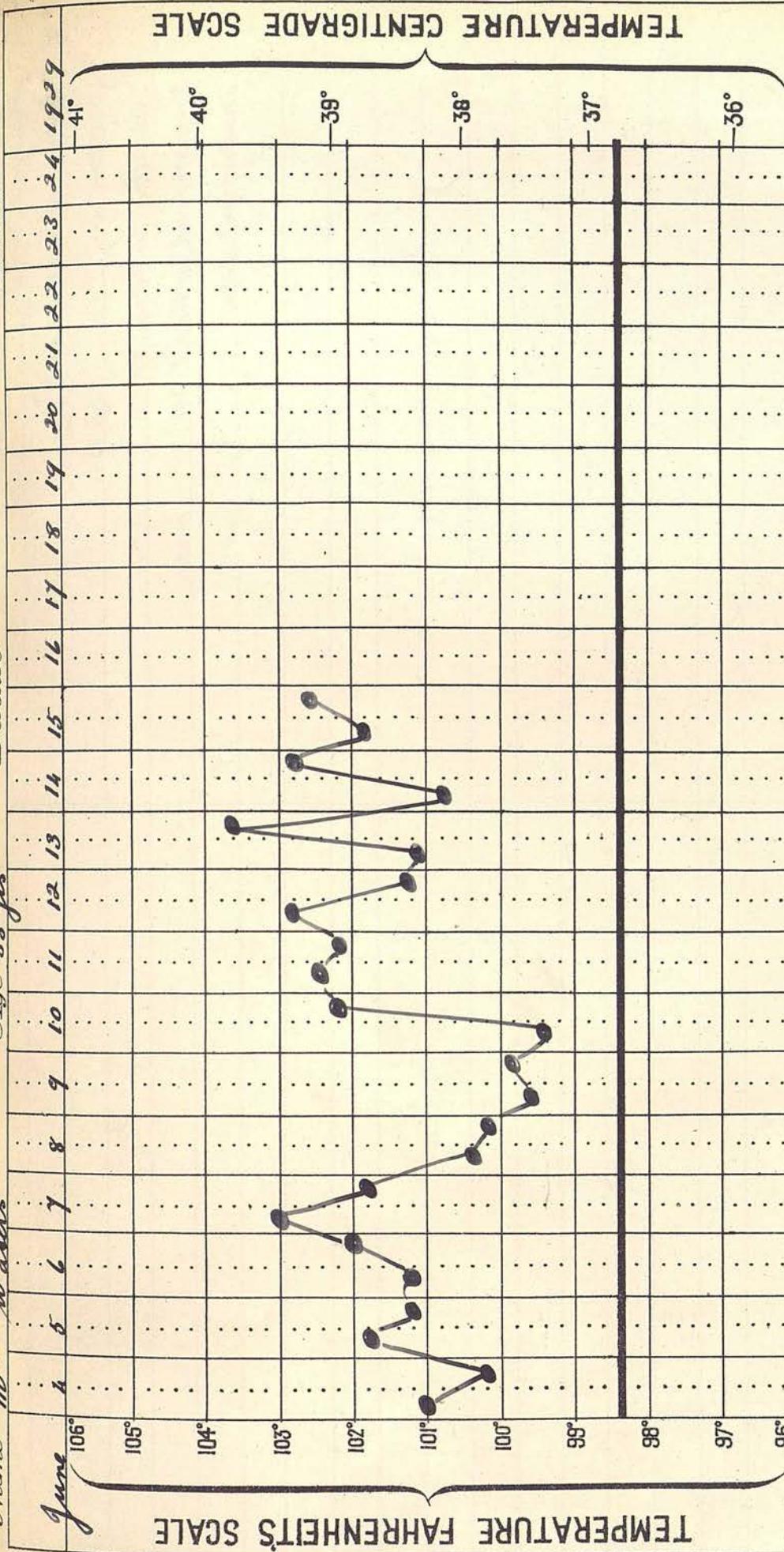
Number of days duration of fever  
in hospital = 22.



Name Mrs Waters

## TEMPERATURE FAHRENHEIT'S SCALE

TEMPERATURE CENTIGRADE SCALE

[illegible]

Day of Chapter	37	41	43	45	47	49	51	53	55	57
Day of Chapter	37	39	41	43	45	47	49	51	53	55





Case 113.

Mrs. W. Aet 35 years. Primipara. Previous Infectious Diseases = nil.

History: 29/4/29 Caesarean Section for Placenta Praevia. 31/4/29 Pyelitis and Cystitis. 2/5/29 Chest trouble. 8/5/29 Small active focus at left apex. Fluid at right base. Abdominal wound broke down in lower half. Two pyaemic abscesses one in each hip - opened - discharging pus. Raw area in middle of back. Lochia heavy but never offensive.

Admitted to hospital on the 37th day of the puerperium and 35th day of disease. Temp. 101, Pulse 120.

Clinical Notes: Patient appears very ill, pale and anaemic. Tongue dry, dirty brown colour, red at tip.

Abdomen: scar of operation runs from umbilicus to pubis. A healing stab wound (drain), three inches above pubis, some thin yellow pus oozing from it.

Abdomen tumid with free fluid. Dullness in the flanks, tympanitic note in centre. Thrill obtained. Liver and spleen not enlarged.

Lungs: Cough present. Respirations rapid. Restricted movement at bases.

Percussion note dull over bases, especially right base. Breath sounds tubular, moist râles at both bases. Vocal fremitus and resonance diminished. Apices clear.

Heart: Systolic murmur in mitral area. No enlargement of heart. Two abscesses, one in each hip have been opened by two inch long incisions over greater

Trochanters. One superficial bed-sore between scapulae.

Blood Culture = Staphylococci (Staphylococcus Aureus).

Wassermann = Anticomplementary serum, probably negative.

Catheter specimen of urine = No casts, Pus cells +++, Staphylococci +++, B. Coli +

Uterine Culture = Not taken.

Blood Picture = Erythrocytes = 3,300,000.

Haemoglobin = 55%. Colour Index = .8. Leucocytes = 7,400. Polymorphs = 61%. Lymphocytes = 39%.

Dick Test = Negative (35th day of disease).

Pus from hip abscess = Staphylococci present in direct film and on culture.

Sputum = Great variety of organisms present. No Tubercle bacilli. A staphylococcus is abundantly present.

#### Treatment and Progress:

Mist Pot Cit et Pot Bic. Mist Pot Iod gr  $\frac{iv}{iv}$  et Tinct Digitalis M $\overline{XV}$  4 hourly. Codein phosph. for cough. Mist Bism Carb et Pulv Ipecac co.

Diarrhoea and vomiting for one weeks after admission.

Temp. as seen from chart continued high till death 11 days after admission.

Three days before death perforation of right tympanic membrane with discharge of pus from ear.

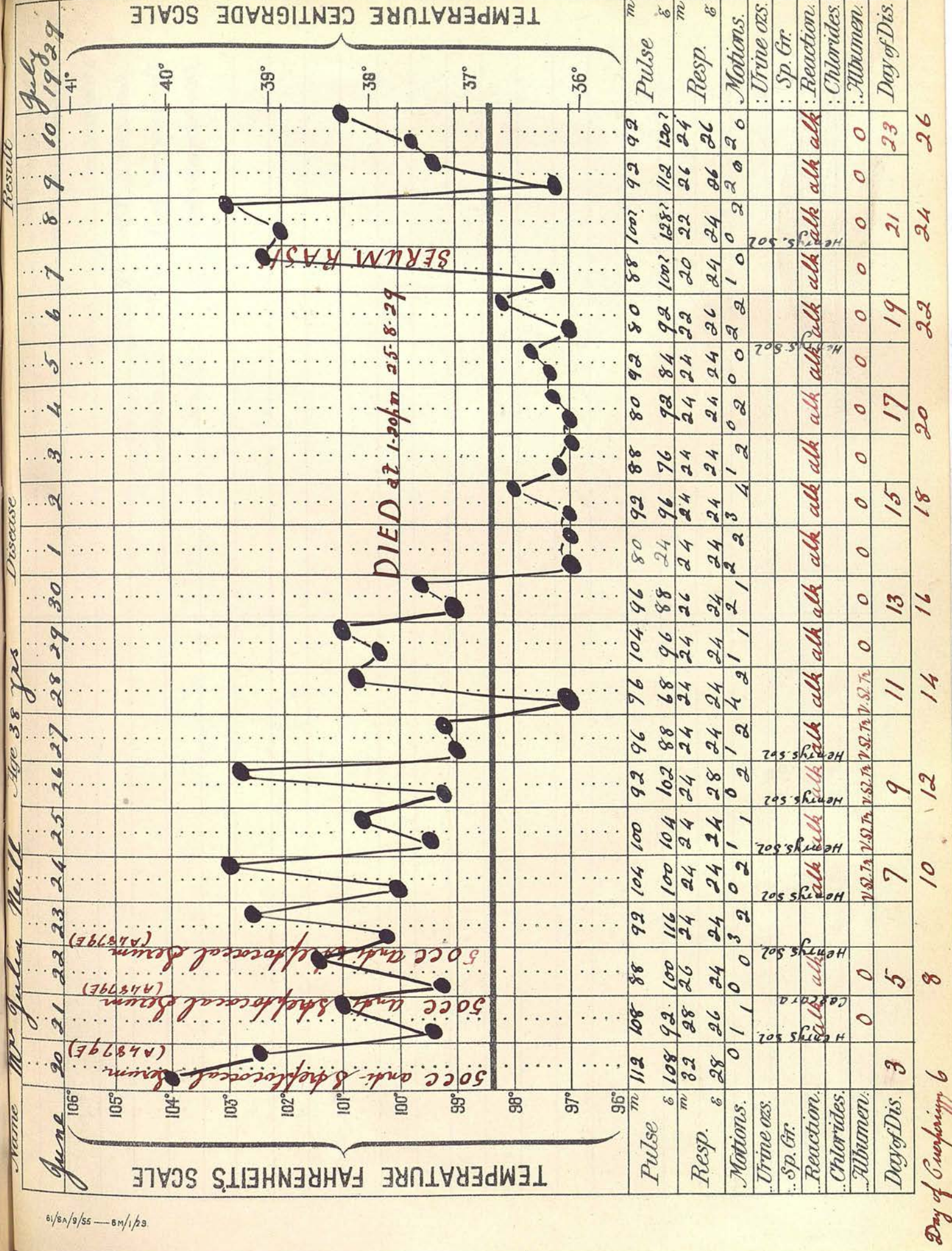
The case was evidently a severe septicaemia due to staphylococci. Evidence of blood infection was the presence of the two pyaemic abscesses, peritonitis, and congested lung bases.

Number of days in hospital = 12

Number of days duration of

fever in hospital = 12.







Name Mrs D. J. M. : 8

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date \_\_\_\_\_

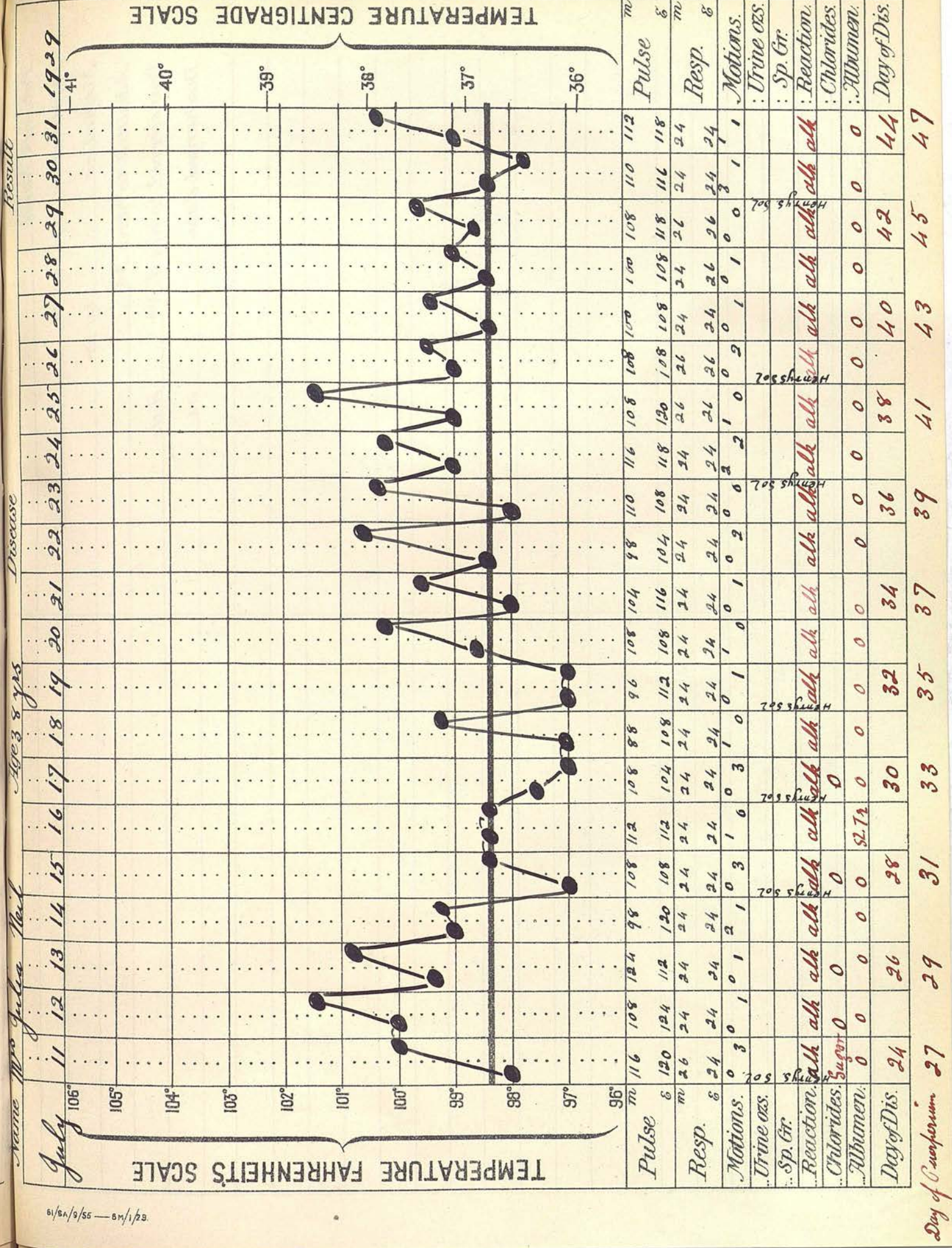
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 $\alpha S$ [illegible]



TEMPERATURE FAHRENHEIT'S SCALE

TEMPERATURE CENTIGRADE SCALE



Day of Quarantine 27 29 31 33 35 37 39 41 43 45 47



*Patient's Name:*

*Information to be sent to:*

Notified as \_\_\_\_\_ by Dr. \_\_\_\_\_

Admitted to Ward No.

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as \_\_\_\_\_

Discourse

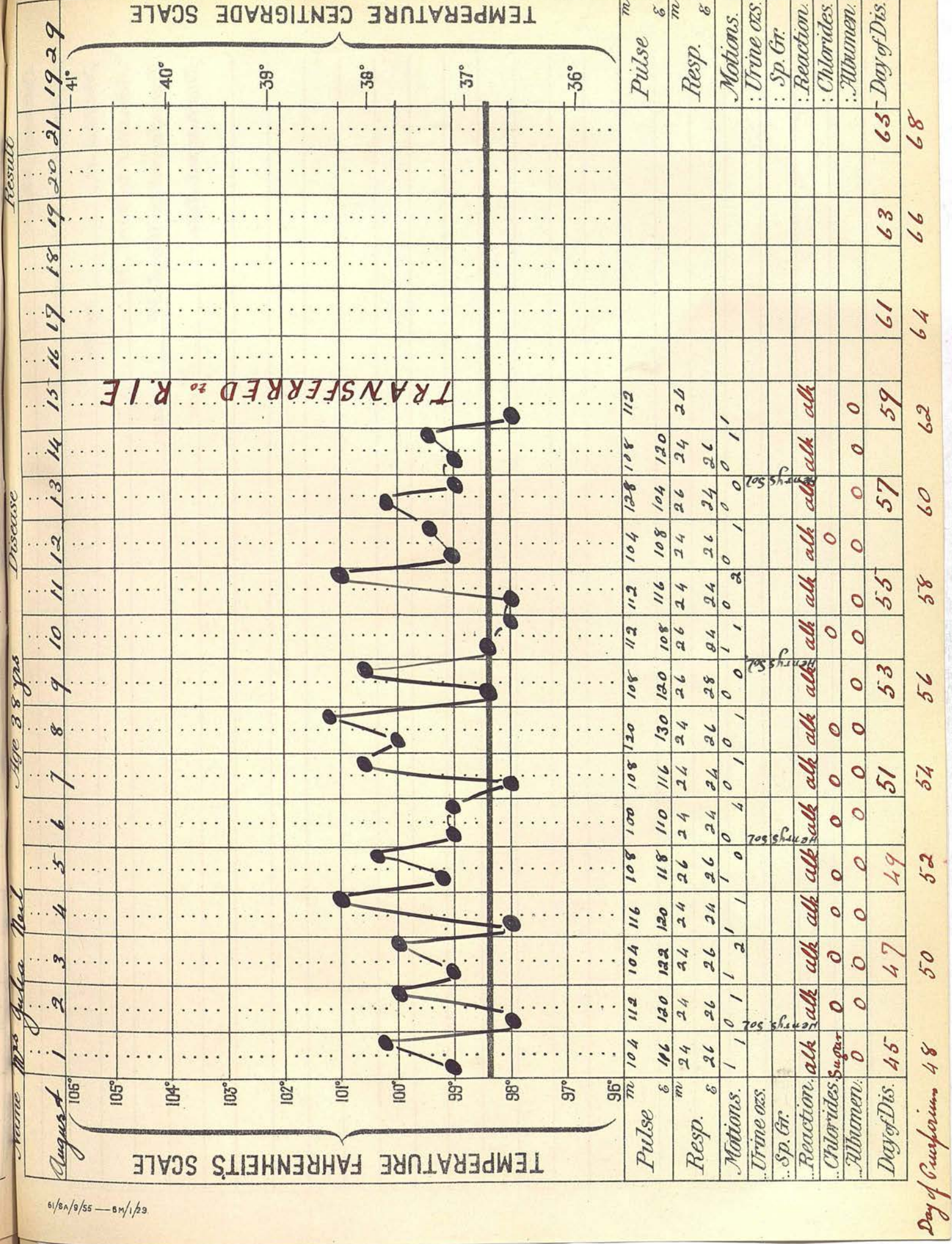
Apr 28 1901

Marine Mrs. Julia N. 1

TEMPERATURE FAHRENHEIT'S SCALE

TEMPERATURE CENTIGRADE SCALE

TRANSFERRED to R.I.E.



Day of Quarantine 48



Patient's Name:

Dissectase

Age 39 years

Mill

Verne Mrs. Duke

Information to be sent to:

Notified as \_\_\_\_\_ by Dr \_\_\_\_\_

Admitted to Ward No.

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as \_\_\_\_\_

[illegible]

# TEMPERATURE FAHRENHEIT'S SCALE

# TEMPERATURE CENTIGRADE SCALE

August

September 1929

Readmitted from R.I.F.

6/8A/0/55 — 6M/1/29

Pulse

Resp.

Motions.

Urine ozs.

Sp. Gr.

Reaction.

Chlorides.

Albumen.

Day of Dis.

112 128 98

24 24 28

0 1 1

Striglion

66

68

70

72

74

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84

86

Day of Quarantine 69

71

73

75

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81

83

85

87

89



Patient's Name:

*Information to be sent to:*

Notified as \_\_\_\_\_ by Dr. \_\_\_\_\_

Admitted to Ward No.

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as \_\_\_\_\_

[illegible]

Case 114.

Mrs. J.N. Aet 38 years. Multipara. Previous Infectious Diseases = nil.

History: 15/6/29. Normal Delivery. 18/6/29. Headache, shivering, abdominal pain.

Admitted to hospital on the 6th day of the puerperium and 3rd day of disease. Temp. 104, Pulse 112.

Clinical Notes: Abdomen: Fundus of uterus just below umbilicus, firm, but tender on palpation. No tenderness in iliac fossae on admission. Cervix: swollen, posterior lip inflamed. No lacerations. Discharge from uterus small in quantity, blood stained and not offensive. Vagina and Perineum: no tears.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = No casts, no pus cells  
no organisms.

Uterine Culture = Haemolytic Streptococci.

Blood Picture = Erythrocytes = 3,130,000.

Haemoglobin = 45%. Colour Index =

.7. Leucocytes = 12,500. Polymorphs = 76%. Lymphocytes = 16%.

Large mononuclears = 4%. Eosinophils = 3%. Basophils = 1%.

Dick Test = Positive (3rd day of disease)

Treatment and Progress:

50 c.c. antistreptococcal serum (puerperal) on day of admission.



50 c.c. antistreptococcal serum (puerperal) on day after admission. Temp. 100.101, Pulse 108.

50 c.c. antistreptococcal serum (puerperal) on 2nd day after admission. Temp. 99.2-101.4, Pulse 100.

Glycerine Treatment. Femergin.

Temp. continued to remit (see chart) until the 12th day of admission. Four days after admission patient developed some tenderness in both iliac fossae low down which I considered to be due to a thrombophlebitis of the pelvic veins. On the 12th day of admission both feet and ankles were noticed to be blue in colour, cyanotic and cold to the touch.

Pulsation of Dorsalis Pedis and plantar arteries not felt. Patient put on Sodium nitrite gr.  $\frac{1}{6}$  hourly. Blood stained discharge from uterus still present.

17 days after admission patient developed an urticarial serum rash on trunk and lower arms.

Blood Pressure : systolic = 122; diastolic = 90.

Temp. as seen from chart kept swinging away for another five weeks. The feet became gradually worse = dark blue in colour and quite dead. Complaint of very severe pain in the lower legs.

Morphia injections given.

Patient was transferred to the Royal Infirmary 56 days after admission as both feet were gangrenous, and in the hope that something surgical might be done.

Patient was however re-admitted 8 days later without any operation having been performed.

On re-admission patient practically unconscious.

Pulse very rapid and difficult to obtain. Face and upper extremities cold. Both feet as before.

Patient died two days after re-admission.

Number of days in hospital = 60.

Number of days duration of  
fever in hospital = 45.



Result

Disease

Age 38 yrs

Name Mrs Jean Carbone

July

August

1929

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Patient's Name \_\_\_\_\_

Information to be sent to \_\_\_\_\_

Notified as \_\_\_\_\_ by Dr \_\_\_\_\_

Admitted to Ward No. \_\_\_\_\_

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as \_\_\_\_\_

[illegible]



TEMPERATURE CENTIGRADE SCALE





Patient's Name \_\_\_\_\_

Information to be sent to \_\_\_\_\_

Notified as \_\_\_\_\_ by Dr \_\_\_\_\_

Admitted to Ward No.

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as \_\_\_\_\_

[illegible]





Day of Year	47	49	51	53	55	57	59	61	63	65	67
Day of Year	47	49	51	53	55	57	59	61	63	65	67



Result

Disease

Apr 38 x 28.

NAME Mrs G. A. L. ...

utis. Värme

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Apr 38 x 28.

NAME Mrs G. A. L. ...

Information to be sent to:

Notified as \_\_\_\_\_ by Dr \_\_\_\_\_

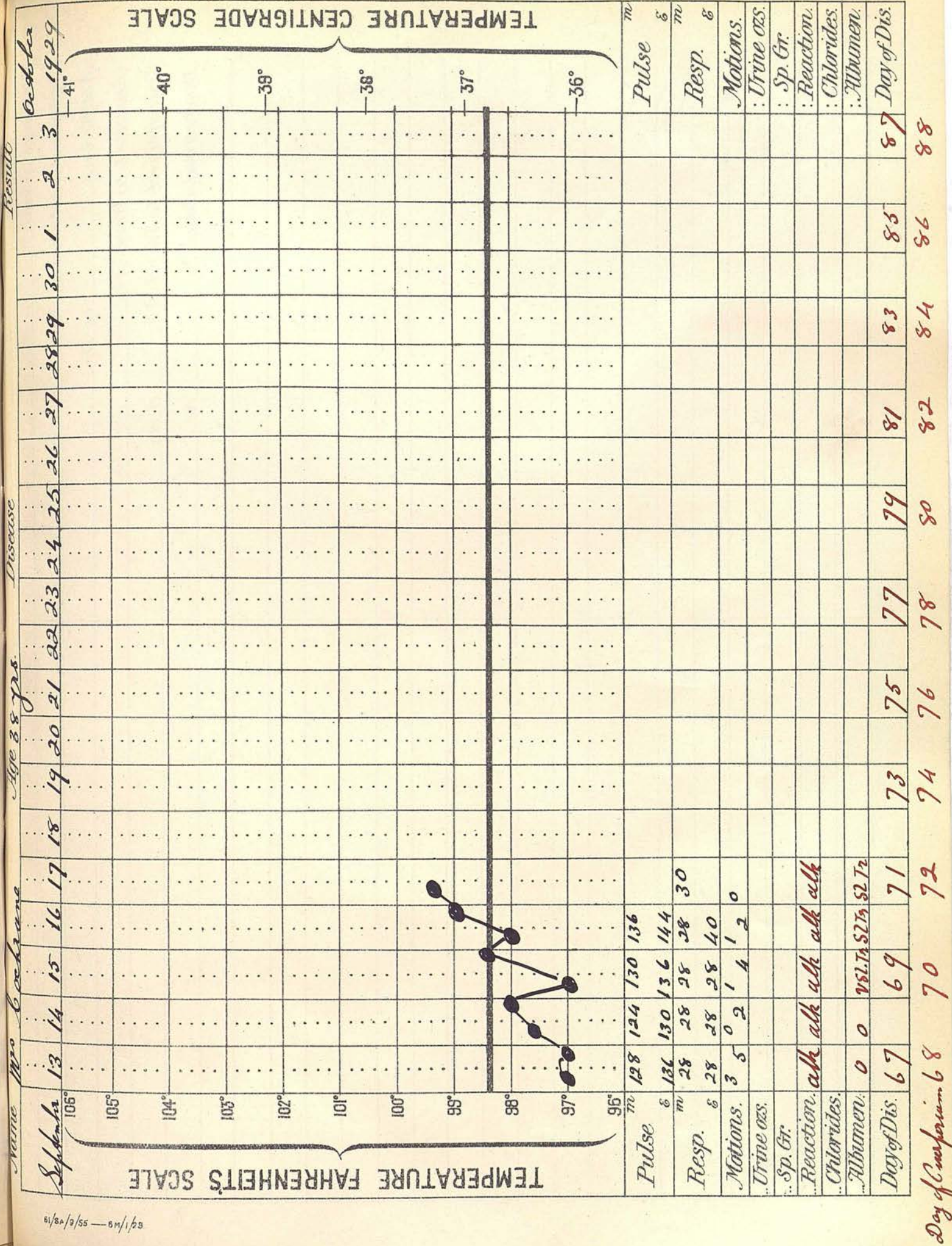
Admitted to Ward No.

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as \_\_\_\_\_

[illegible]









Case 115.

Mrs. J.C. Aet 38 years. Multipara. Previous Infectious Diseases = nil.

History: 8/7/29. Normal Delivery. 9/7/29.

Headache, shivering, sickness and vomiting. 11/7/29

Abdominal pain. Rigor. Temp. 106.

Admitted to hospital on the 5th day of the puerperium and 4th day of disease. Temp. 99.2, Pulse 96.

(morning). Temp. 103, Pulse 142 (evening).

Clinical Notes: Face: malar flush on each cheek.

Mucous membranes pale and anaemic. Abdomen: moves freely on respiration. Fundus of uterus not

palpable. Tenderness on deep palpation low down in

the right iliac fossa. Yellowish offensive discharge

from uterus. Cervix: tear of anterior lip which is

a little swollen. Vagina: walls a little bruised.

Perineum: tear extending to the right of the midline.

Blood Culture = Negative. On 9th day of ad-

mission a second culture =

Haemolytic Streptococci.

Wassermann = Negative.

Catheter specimen of urine = Granular and

hyaline casts. A few pus cells.

No organisms.

Uterine Culture = Haemolytic Streptococci.

Blood Picture = Erythrocytes = 2,800,000.

Haemoglobin = 40%. Colour Index=

.9. Leucocytes = 12,000.

Polymorphs = 78%. Lymphocytes =  
27%. Large mononuclears = 4%.  
Eosinophils = 1%.

Treatment and Progress:

20 c.c. Scarlet Fever Antitoxin on day of admission.

20 c.c. Scarlet Fever Antitoxin on day after admission.

20 c.c. Scarlet Fever Antitoxin on 3rd day of admission.

20 c.c. Scarlet Fever Antitoxin on 4th day of admission.

Glycerine Treatment. Femergin. Mist Pot Cit et Sod Bic. Patient had a rigor every day until 6th day of admission. Developed a cough, some moist sounds in the right axilla. Sputum examined for 7 consecutive days and no tubercle bacilli found. 11 days after admission fluid suspected at right base - needle inserted but no fluid struck. Patient on Digitalis (Tinct) and Iodide (Pot). At end of 3rd week patient still very ill - rigors - pulse rapid. Needle put in right base but no fluid obtained. Patient then ran a high temp. with rigors for another 14 days when the right base was again tapped and at last 100 c.c. of yellowish thinish pus withdrawn which contained haemolytic streptococci and a few staphylococci. The following day the right pleural cavity was opened into under local anaesthesia (incision between ribs)



and a large drainage tube inserted. Temp. stayed up and two days later patient had another rigor. Left base dull and breath sounds faint so two days later a needle was inserted into the left pleural cavity and 90 c.c. of blood stained serous fluid was withdrawn which contained numerous polymorphonuclear cells and lymphocytes but no organisms. Left base appeared clear after this for 14 days.

In her 7th week patient continued to have rigors although appeared somewhat better generally. Profuse discharge of foul smelling pus from the opening in the right pleural cavity. Patient also at this time expectorating much thick foul smelling sputum.

Patient started on a course of Colloidal Manganese  $\frac{1}{2}$  c.c. biweekly.

At the beginning of the 9th weeks 170 c.c. of thin yellow pus got on aspiration of the left pleural cavity - pus contained haemolytic streptococci. On account of the large opening in the right chest the left chest was not incised and drained, but was tapped every other day for pus. The patient however was very ill indeed, and sinking every day - the pulse being very fast, ~~xxxx~~ irregular and almost not felt at the wrist. Patient died on the 68th day of admission - septicaemia and double empyema.

Note the four large doses of Scarlet Fever antitoxin (80 c.c. in all) given. It had apparently not the slightest effect on the haemolytic streptococci in the blood.

Number of days in hospital = 68

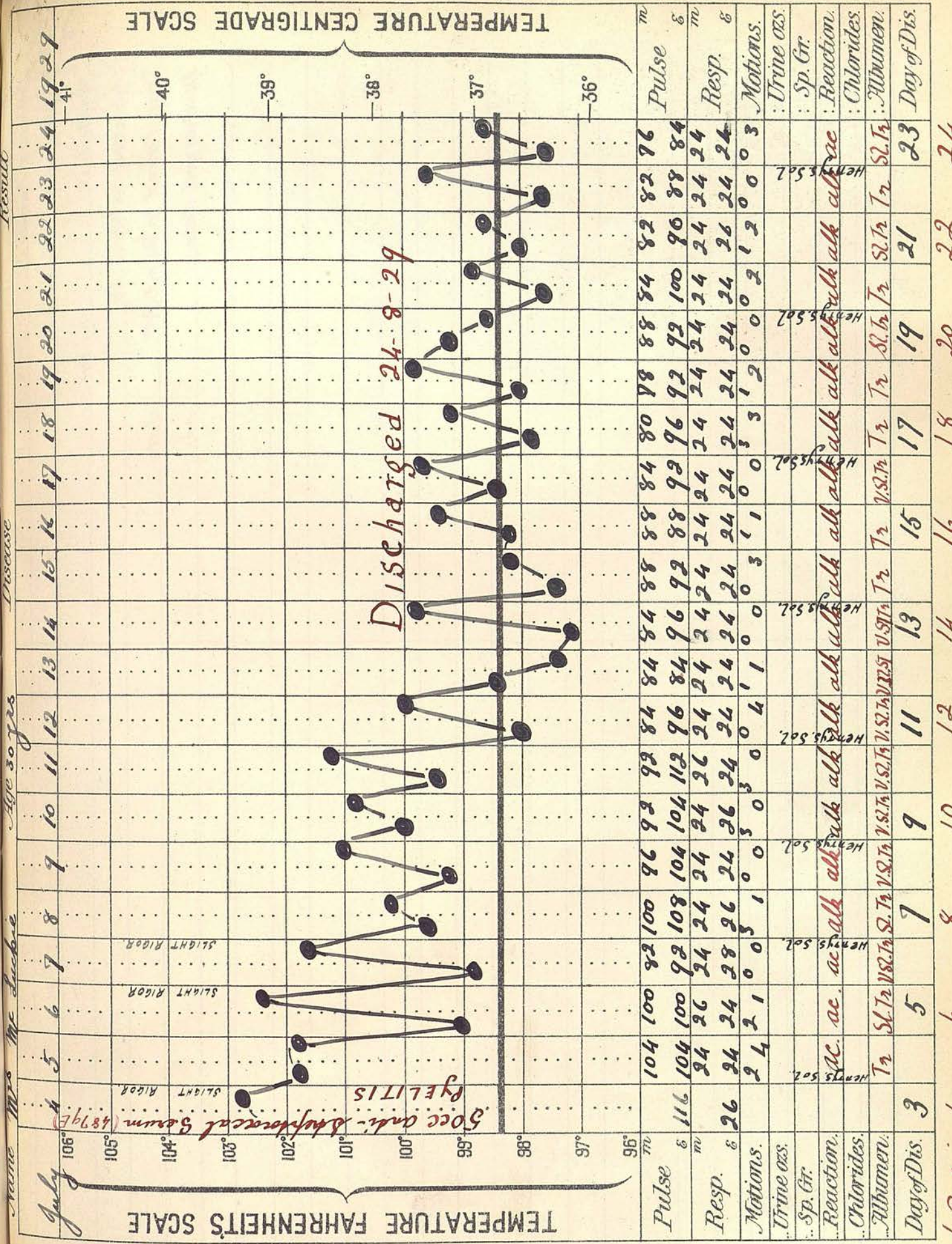
Number of days duration of

fever in hospital = 63.



TEMPERATURE FAHRENHEIT'S SCALE

TEMPERATURE CENTIGRADE SCALE



Result



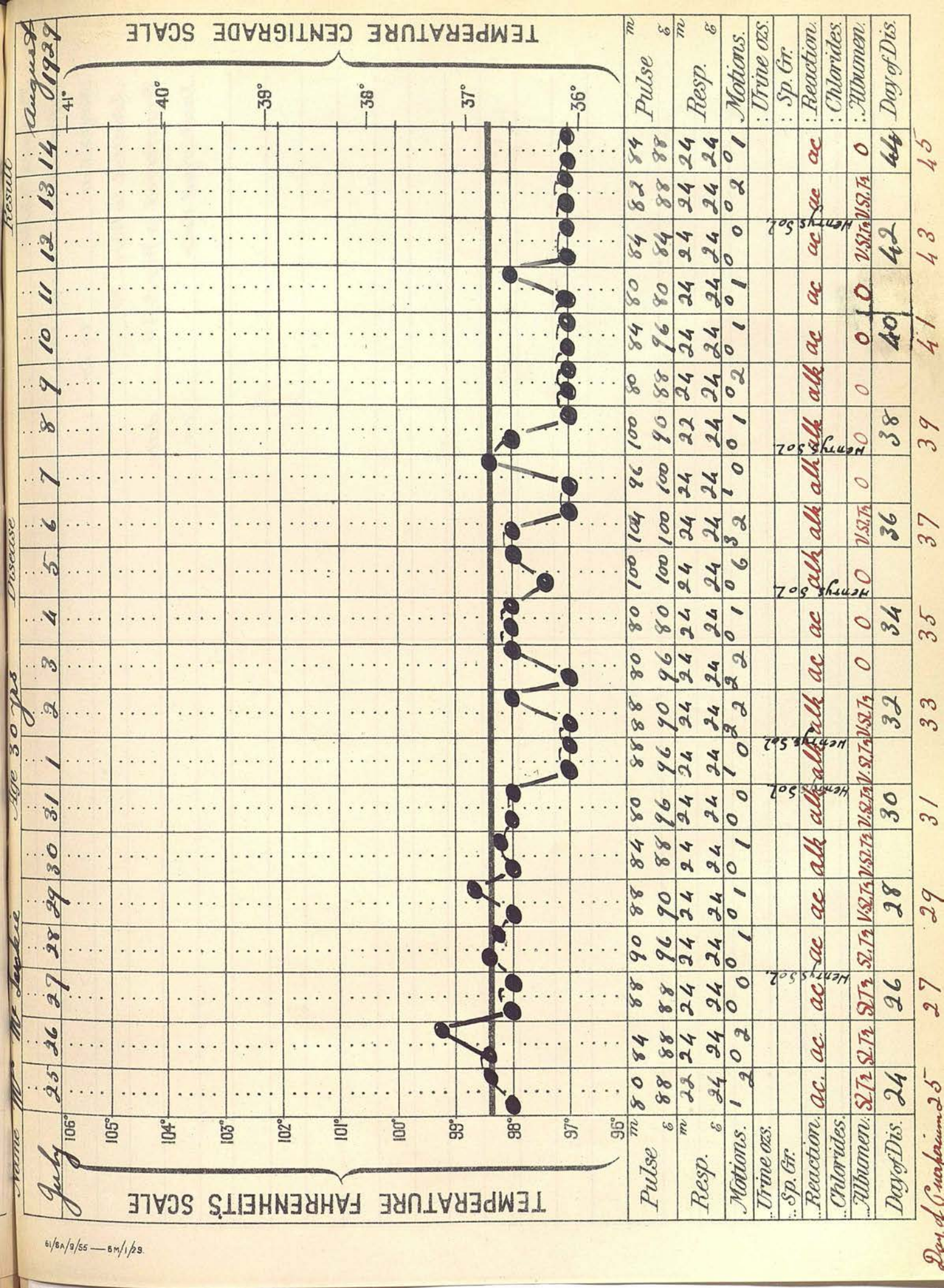
Name Mr. McFarber

Notified as \_\_\_\_\_ by Dr \_\_\_\_\_

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as \_\_\_\_\_







100

Discharged date \_\_\_\_\_ as \_\_\_\_\_

Name <u>Mr. M. J. D. D.</u> Age <u>32 yrs</u> Disease										Result										
August										Sept										
15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4
TEMPERATURE FAHRENHEIT'S SCALE										TEMPERATURE CENTIGRADE SCALE										
106°																	41°			
105°																	40°			
104°																	39°			
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102°																	37°			
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96°																				
Pulse	84	80	96	92	84	84	84	90	98	96										
Resp.	22	22	22	22	22	22	22	22	22	22										
Motions.	1	1	0	1	0	0	0	0	0	1										
Urine ozs.																				
Sp. Gr.																				
Reaction.	ac	ac	ac	ac	ac	ac	ac	ac	ac	ac										
Chlorides.																				
Albumen.	0	0	0	0	0	0	0	0	0	0										
Day of Dis.	45		47		49		51		53	55		57		59		61	63		65	

Day of Quarantine 46 48 50 52 54 56 58 60 62 64 66







Case 116.

Mrs. McL. Aet 30 years. Primipara. Previous Infectious Diseases = Scarlet Fever, Measles.

History: 1/7/29. Failed Forceps. Child still born. 2/7/29 Headache, abdominal pain.

Admitted to hospital on the 4th day of the puerperium and 3rd day of disease. Temp. 102; Pulse 116.

Clinical Notes: Face greyish in colour. Pulse rapid.

Patient appears ill. Abdomen: Uterus enlarged and tender. Fundus at level of umbilicus. Discharge from uterus very moderate in amount, blood stained and not offensive. Cervix: small laceration on left side of anterior lip. Vagina: normal.

Perineum: mid-line deep tear. Has been sutured but not united. Purulent discharge from tear.

Some tenderness on palpation over left broad ligament.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = A few granular and hyaline casts. Pus Cells +++ , B. Coli ++.

Uterine Culture = Haemolytic Streptococci.

Blood Picture = Erythrocytes = 3,125,000.

Haemoglobin = 50%. Colour

Index = .8. Leucocytes =

39,300. Polymorphs = 88%.

Lymphocytes = 8. Large

mononuclears = 4%.

Dick Test = Negative (3rd day of disease).

### Treatment and Progress:

50 c.c. antistreptococcal serum (puerperal) on day of admission.

Glycerine Treatment. Femergin. Mist Pot Cit et Sod Bic.

Temp. kept up till 10th day of admission (remittent 99 and 102). Pulse fairly good, under 120.

On 11th day of admission temp. started to flicker again, rising to just under 100. Pulse satisfactory however.

On 18th day of admission patient put on Acid sodium phosp. 3 ss. t.i.d. and hexamine gr. ~~X~~ ti.d.

Uterue involuting satisfactorily - fundus just above symphysis. Thin uterine discharge. No tenderness over uterus. After three weeks patient settled down very nicely.

Vaginal examination at end of sixth week showed parts to have healed well. No tenderness. No thickening in either iliac fossa.

The case was a definite septicaemia in a patient with very good resistance and fighting powers. Note marked polymorph leucocytosis.

Number of days in hospital = 52.

Number of days duration of

fever in hospital = 17.





Patient's Name:

*Information to be sent to:*

Notified as \_\_\_\_\_ by Dr. \_\_\_\_\_

Admitted to Ward No.

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as \_\_\_\_\_

[illegible]



Case 117.

Mrs. I.C. Aet 43 years. Multipara. Previous Infections Diseases = Nil.

History: 19/8/29. Craniotomy - Failed Forceps - Cervix torn. 500 c.c. 6% gum acacia solution given intravenously with 20% glucose also 25 c.c. anti-streptococcal serum intravenously and 50 c.c. anti-streptococcal serum intramuscularly. 20/8/29.

50 c.c. antistreptococcal serum intramuscularly. Since delivery pulse over 120 and temp. 100. Passed some membrane on this date (20/8/29).

Admitted to hospital on the 3rd day of the puerperium and 3rd day of disease. Temp. 102.2, Pulse 104.

Clinical Notes: General condition very poor.

Abdomen: uterus large and boggy. Fundus above the umbilicus and very tender on palpation. No tenderness over the right or left broad ligaments. Cervix: swollen, oedematous and red. Badly lacerated.

Slightly offensive red discharge from the uterus, moderate in amount only. Vagina: walls oedematous and congested; areas of sloughing present.

Perineum: lacerated. Heart: systolic mitral murmur propagated towards left clavicle.

Blood Culture = Haemolytic Streptococci.  
(*Streptococcus Pyogenes*)  
Wassermann = Negative.

Catheter specimen of urine = No casts, pus cells and B. Coli.

Uterine Culture = Haemolytic Streptococci.

Blood Picture = Erythrocytes = 3,400,000.

Haemoglobin = 54%. Colour

Index = .8. Leucocytes =

13,400. Polymorphs = 85%.

Lymphocytes = 9% Large

mononuclears = 2%. Basophils = 1%

Myelocytes = 3%

Dick Test = Negative (3rd day of disease).

Treatment and Progress: Glycerine Treatment. Femer-  
gin. Mist Pot Cit et Sod Bic.

On the 4th day of admission temp. 103.4, Pulse very  
soft and poor quality. Patient then continued to  
run a high temp. as will be seen from the chart.

7 days after admission patient developed an arteritis  
in the left foot. The left foot was very painful  
bluish red in colour and cold to the touch - commencing  
gangrene. General condition very poor. Patient  
almost pulseless.

8 days after admission temp. still high. Pulse not  
felt at wrist - both feet blue and cold - gangrene.

No pulsation of right and left dorsalis pedis  
arteries. Both lung bases dull, with coarse  
crepitations and harsh vesicular breathing.

Patient died on the following day - unconscious 24  
hours before death.

Number of days in hospital = 10.

Number of days duration of fever  
in hospital = 9.



[illegible]

Case 118.

Mrs. A.W. Aet 32 years. Multipara. Previous Infectious Diseases = Measles.

History: 24/9/29. Normal Delivery. 27/9/29 Rigor. Elevated temp. Diarrhoea.

Admitted to hospital the 5th day of the puerperium and 2nd day of disease. Temp. 103.6, Pulse 148.

Clinical Notes: Abdomen: Fundus of uterus 2 inches above symphysis, not tender on palpation. Cervix: swollen and oedematous. Small laceration on the left side of anterior lip. Thickish yellowish discharge, non-offensive, not profuse in quantity. Vagina: normal. Perineum: small tear present. Patient has diarrhoea and pain on defecation: the pain being low down in the abdomen. No tenderness on palpation.

Extremities rather blue and cold on admission.

Blood Culture = Haemolytic Streptococci, (Streptococcus Pyogenes)

Wassermann = Negative.

Catheter specimen of urine = No casts, no pus cells, no organisms.

Uterine Culture = Haemolytic Streptococci. (Streptococcus Pyogenes)

Blood Picture = Erythrocytes = 3,890,000.

Haemoglobin = 65%. Colour Index = .8. Leucocytes = 12,200.

Polymorphs = 81%. Lymphocytes = 13%. Large mononuclears = 4%.

Eosinophils = 2%.



Dick Test = Negative (2nd day of disease).

Treatment and Progress:

20 c.c. Scarlet Fever antitoxin on day of admission.

20 c.c. Scarlet Fever antitoxin on day following admission.

Glycerine Treatment. Femergin. Mist Bism.  
Carb. and Pulv ipecac.co. Sod. Nitrite gr.  $\frac{1}{2}$  6 hourly.  
Sulfarsenol 12 cgms. for 3 days before death on 6th day of admission. Two days after admission this patient developed gangrene of both feet. Affected parts became cold, blue and cyanotic. No pulsation of both dorsalis pedis arteries - toxic arteritis. Patient became semi-unconscious, breathing became rapid and stertorous and she died on 6th day of admission - septicaemia.

Number of days in hospital = 6.

Number of days duration of

fever in hospital = 5.





Patient's Name:

Information to be sent to:

Notified as \_\_\_\_\_ by Dr \_\_\_\_\_

Admitted to Ward No.

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date as[illegible]

Case 119.

Mrs. J. McL. Aet 28 years. Multipara. Previous Infectious Diseases = Measles, Chicken-pox.

History: 8/8/29. Normal Delivery. 11/8/29. Head-ache, shivering.

Admitted to hospital on the 8th day of the puerperium and 5th day of disease. Temp. 101.6, Pulse 128.

Clinical Notes: Patient evidently very ill. Shows mental symptoms, hallucinations, and is very noisy. Cannot answer questions intelligently.

Abdomen: Fundus of uterus 2 inches above symphysis, not tender on palpation. Tenderness well marked over both broad ligaments - pelvic cellulitis.

Cervix: large and os patulous. No tears. Blood stained discharge from the uterus. Vagina: tear to the left side on the anterior wall. Perineum: tear on the left side. Lungs: Râles and crepitations at both bases. No dullness. Broncho-vesicular breathing - consolidation. (congestion at bases).

Blood Culture = Haemolytic Streptococci.

Wassermann = Negative.

Catheter specimen of urine = Granular and hyaline casts, a few red blood corpuscles, epithelial cells, pus cells, no organisms.

Uterine Culture = Haemolytic Streptococci.  
(Streptococcus Pyogenes)

Blood Picture = Erythrocytes = 3,100,000.

Haemoglobin = 52%. Colour

Index = .8. Leucocytes = 8,400



Polymorphs = 70%. Lymphocytes =

19%. Large Mononuclears = 6%.

Eosinophils = 4%. Basophils = 1%.

Treatment and Progress:

20 c.c. Scarlet Fever Antitoxin on day of admission.

20 c.c. Scarlet Fever Antitoxin on day following admission.

Femergin. Tinct Digitalis M  $\overline{XX}$  4 hourly. Camphor on Oil gr.  $\overline{III}$  4 hourly, alternately with Caffein Sodium Salicylate gr.  $\overline{II}$  4 hourly.

Temp. continued high (104 or just under 104) from 2nd day of admission - pulse fast and soft - over 120. Respirations never much increased in rate and I do not think the mild congestion at the lung bases had much to do with the patient's death which occurred on her 7th day of admission.

Death was due to a severe septicaemia. Patient had no reaction and put up a poor resistance against the haemolytic streptococcus. Note absence of Total leucocytes numbered 8,400.

Number of days in Hospital = 7.

Number of days duration of

fever in hospital. = 7.

DIED at 8-30 pm 11-10-29

TEMPERATURE FAHRENHEIT'S SCALE

TEMPERATURE CENTIGRADE SCALE

GANGRENE (L.f.o.t)

~~50ccs ANTISTREPTOCOCCAL Serum (Painful)~~

[illegible]



Patient's Name:

*Information to be sent to:*

Notified as \_\_\_\_\_ by Dr \_\_\_\_\_

Admitted to Ward No.

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as \_\_\_\_\_

<i>Patient's Name</i>	<i>Information to be sent to</i>
<i>Notified as</i>	<i>by Dr</i>
<i>Admitted to Ward No</i>	<i>date</i>
<i>Transferred to Ward No</i>	<i>date</i>
<i>Discharged date</i>	<i>as</i>

Case 120.

Mrs. M.G. Aet 27 years. Multipara. Previous Infectious Diseases = Scarlet Fever, Measles, Chicken-pox, whooping-cough.

History: 24/9/29. Miscarriage at the 4th month. Admitted to Maternity Hospital with history of recent severe haemorrhage and passage of foetus. Placenta removed manually. Patient collapsed after operation. Intravenous gum acacia solution given. Since the operation elevation of temp. and rapid pulse. 1/10/29 Shivering, abdominal pain;

Admitted to hospital on the 9th day of the puerperium and 9th day of disease. Temp. 102.8, Pulse 120.

Clinical Notes: Patient looks ill. Pulse fast and soft.

Abdomen: uterus in normal position. No tenderness on palpitation. No tenderness in either iliac fossa.

Cervix: inflamed, no lacerations. Vagina: walls show lacerations. Perineum: no tear present.

Small amount of yellow inoffensive discharge from the uterus.

Blood Culture = Haemolytic Streptococci.

Wassermann = Negative.

Catheter specimen of urine = No casts, pus cells  
+++ , B. Coli +++.

Uterine Culture = Haemolytic Streptococci,  
(Streptococcus Pyogenes).

Blood Picture = Erythrocytes = 4,250,000.

Haemoglobin = 70%. Colour Index=

.8. Leucocytes = 12,400.



Polymorphs = 82%. Lymphocytes = 13%.

Large mononuclears = 2%. Eosino-

phils = 2%. Basophils = 1%.

Dick Test = Negative (9th day of disease).

Treatment and Progress:

50 c.c. antistreptococcal serum (puerperal)  
on day of admission.

Glycerine Treatment. Femergin. Mist Pot Cit et  
Sod Bic.

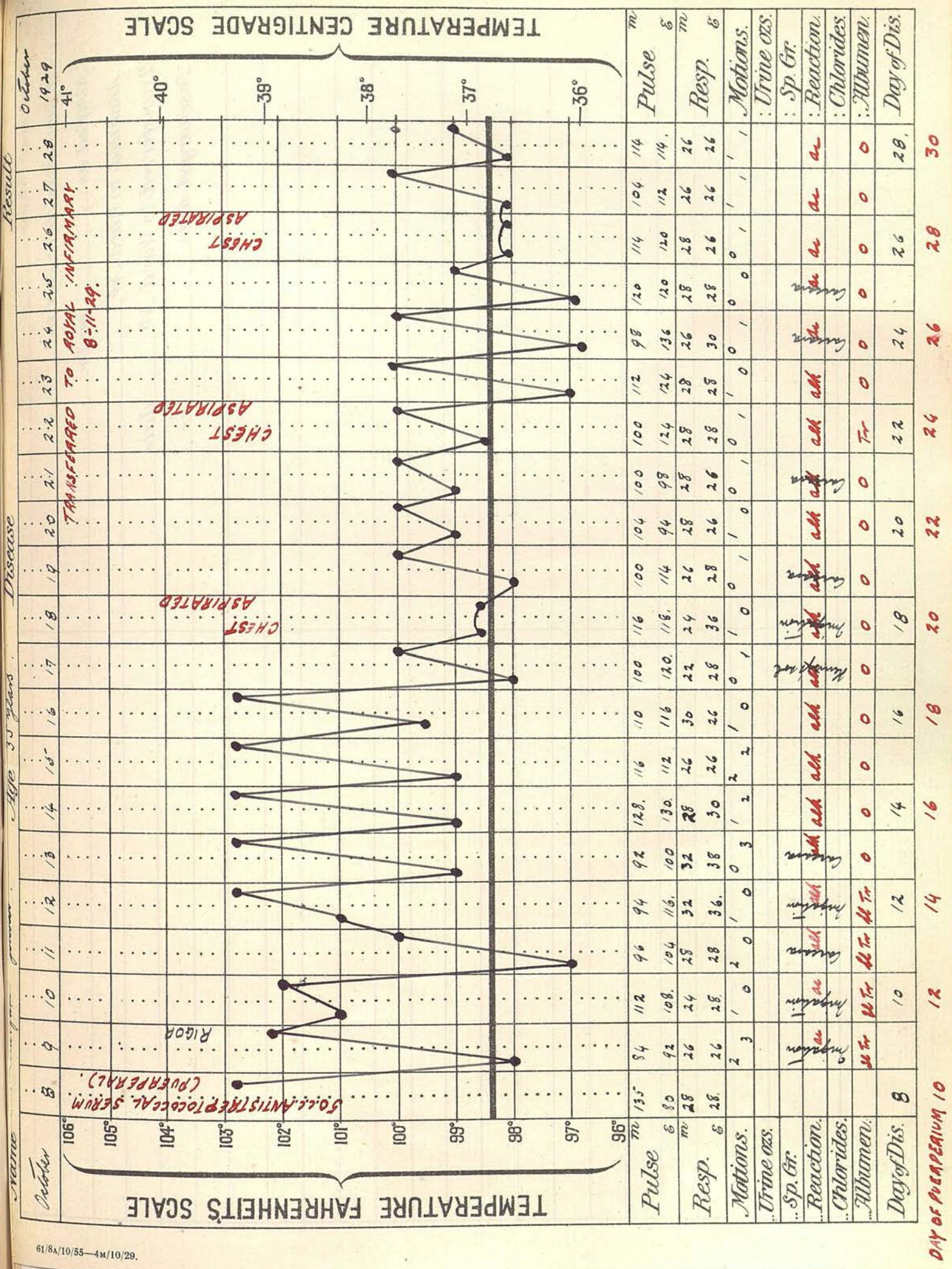
On day after admission, morning temp. subnormal,  
evening temp. 103. Temp. continued high. Pulse fast  
120 and over.

5 days after admission Left foot quite blue in  
colour and cold. Pulsation of left dorsalis pedis  
artery at ankle not felt - a commencing gangrene of  
foot. From this day temp. gradually rose. Patient  
became drowsy and passed into a semi-conscious state.  
Patient died 9 days after admission - temp. before  
death 107. A very severe septicaemia - haemolytic  
streptococci found in the blood and also in the  
uterine culture.

Number of days in hospital = 10.

Number of days duration of

fever in hospital = 10.





Result

Disease

Age 35 years

Name Mr. Margaret Sedgwick

Address

Patient's Name

Information to be sent to

Notified as by Dr.

Admitted to Ward No.

Transferred to Ward No. date

Discharged date as

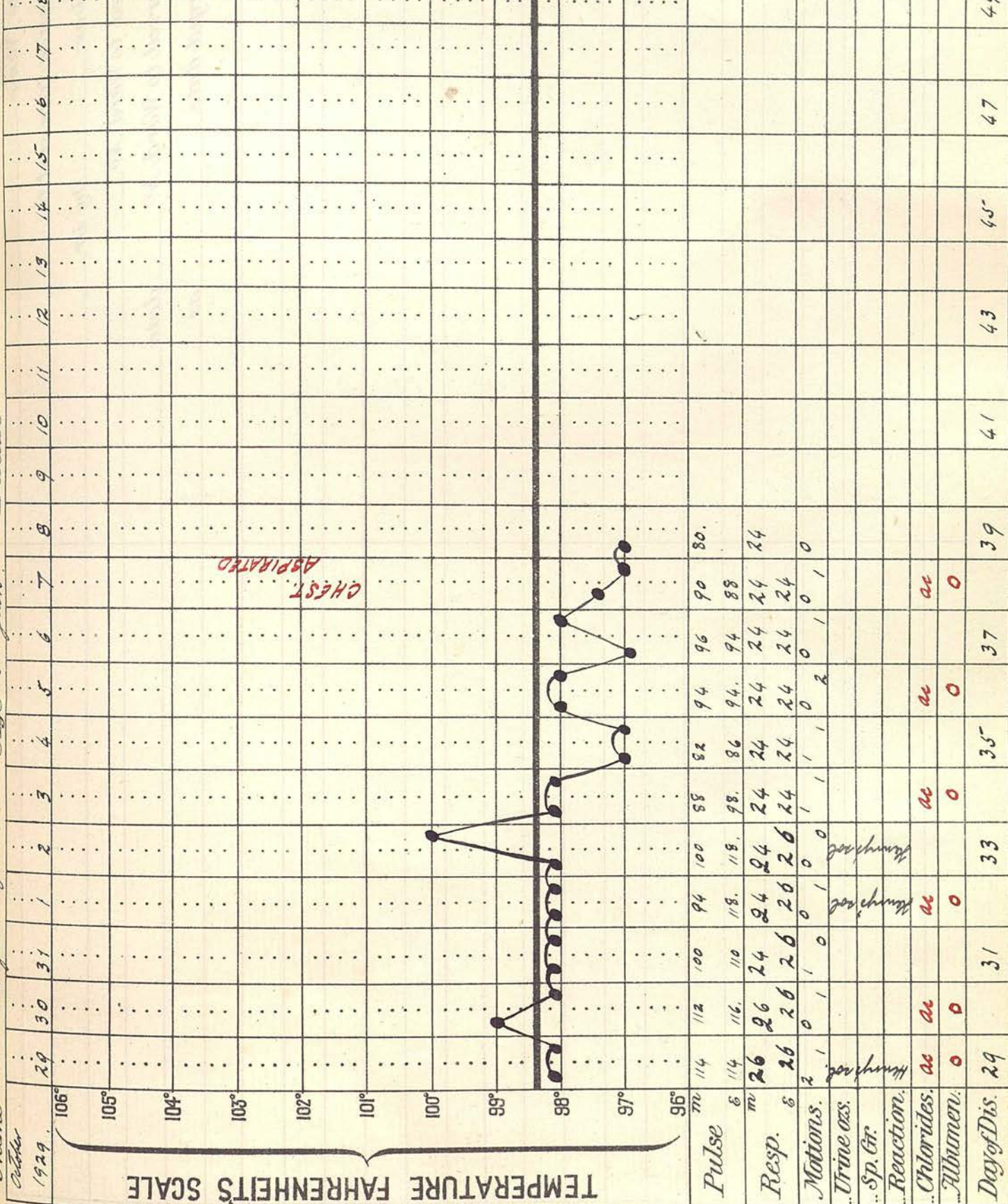
Name *Ms Margaret Geddes* Age *35 years* Disease

TEMPERATURE FAHRENHEIT SCALE

TEMPERATURE CENTIGRADE SCALE

October  
1929

November  
1929







Case 121.

Mrs. M.G. Aet 35 years. Previous Infectious Diseases nil.

History: 29/9/29. Miscarriage (4th months).

Placenta removed manually. Some haemorrhage followed.

1/10/29. Foul blood stained yellowish discharge from the uterus. Elevated temp. Rigors. 4/10/29.

Admitted to R.I.E. where a few pieces of decidua were removed under general anaesthesia. Since then several rigors and temp. of 105.8.

Admitted to hospital on the 10th day of the puerperium and 8th day of disease. Temp. 102.8, Pulse 135.

Clinical Notes: Face flushed, well marked on both cheeks. Patient looks ill and highly fevered.

Abdomen: No tenderness over site of fundus of uterus.

No tenderness in the Iliac fossae. Cervix: a little swollen. No lacerations. Slightly offensive

thickish yellow discharge from uterus. Vagina and

Perineum: nothing abnormal to note.

Lungs: Consolidation of right base. Whole lobe not involved however.

Blood Culture = Non-Haemolytic streptococci.

Wassermann = Negative.

Catheter specimen of Urine = No casts, no pus cells, no organisms.

Uterine Culture = Non-haemolytic streptococci  
(Streptococcus Faecalis).

Blood Picture = Erythrocytes = 3,200,000.

Haemoglobin = 50%. Colour Index=

.8. Leucocytes = 17,600.

Polymorphs = 87%. Lymphocytes = 10%. Eosinophils = 2%. Basophils = 1%.

Dick Test = Negative. (8th day of disease).

#### Treatment and Progress:

50 c.c. antistreptococcal serum (puerperal) on day of admission.

Femergin. Glycerine Treatment. Radiostoleum 3 $\frac{1}{2}$  bd.

On day following admission patient had a rigor. For 8 days following admission the temp. kept swinging between 102.8 and 99 or 99.5. On the 8th day following admission pulse still rapid 110 to 116. Marked dullness on percussion at the right base, vocal resonance and vocal fremitus diminished. Breath sounds absent. Three days later the right base was aspirated and 20 c.c. of opalescent fluid withdrawn from the pleural cavity. This fluid on examination was found to contain streptococci and pneumococci.

The temp. for the next 12 days kept swinging between 100 and 99 or 98.4 (see chart). The chest was aspirated again on the 15th day of admission 10 c.c. of opalescent fluid being withdrawn.

Again on the 19th day of admission the right base was tapped but no fluid withdrawn. The temp. then settled for a few days the pulse however still being a little fast, round about 112.

Patient's general condition much improved. She

was now expectorating much thick yellow sputum which had a very offensive odour. The sputum was examined daily for 7 consecutive days, no tubercle bacilli being found. The common organisms present were, Streptococci, Staphylococci, Pneumococci and some gram negative cocci.

Patient was put on a very rich protein and vitamin diet and given creosote capsules by the month (Capsules Creosote M  $\pi$  t.i.d.). On 31st day of admission patient much improved but aspiration of right base again gave thick yellow pus which contained streptococci and pneumococci.

The following day the patient was transferred to the Royal Infirmary for surgical treatment.

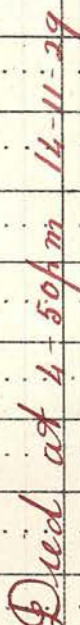
Number of days in hospital = 32.

Number of days duration of

fever in hospital = 21.



TEMPERATURE CENTIGRADE SCALE

[illegible]

Patient's Name:

Information to be sent to:

Notified as \_\_\_\_\_ by Dr. \_\_\_\_\_

Admitted to Ward No.

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as \_\_\_\_\_

[illegible]



Case 122.

Mrs. A.S. Aet 26 years. Multipara. Previous infectious diseases - Measles, Scarlet Fever.

History: 1/11/29 Baby born, no history of nature of delivery. Severe post-partum haemorrhage. 6/11/29 Rise of temp.

Admitted to Hospital on the 7th day of the puerperium and 2nd day of disease. Temp, 103, Pulse 136.

Clinical Notes: Patient states has not been well since delivery. Suffering from throbbing of the head and swelling of the face, hands and feet. Has had palpitation and been very thirsty. No rigors or sweats. On examination face shows extreme pallor, mucous membranes very pale. Swelling and pitting of ankles. Abdomen - Fundus of uterus is not palpable, marked tenderness over its site and also over the right and left broad ligaments. Cervix - small tear present. Foul creamy yellow flocculent discharge from uterus. Perineum and Vagina - nothing abnormal to note. Heart - rough presystolic mitral murmur. Pulmonary second sound accentuated. Blowing systolic murmurs at the pulmonary and tricuspid areas, the apex beat heaving and displaced outward. Lungs - nothing abnormal to note.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = no casts,  
no pus cells, no  
organisms.

Uterine Culture = Haemolytic

streptococci.  
(Streptococcus Pyogenes)

Blood Picture = Erythrocytes =  
1,610,000. Haemo-  
globin 15%.  
Colour Index = .47.

Leucocytes = 4,000. Polymorphs =  
80%. Lymphocytes  
19%. Eosinophils  
1%.

Dick Test = Negative (2nd day of  
disease.

Treatment and Progress: Glycerine Treatment.

Femergin. Fluids freely. Milk, eggs, fresh liver  
etc.

Sulfarsenol 6 cgms. daily for 5 days. Temp. gradually  
fell to normal on the 5th day of admission; the  
pulse also dropping to 100 but remaining rather poor  
in quality. On the 6th day of admission there was  
noted oedema of the ankle and dorsum of the right foot,  
tenderness over the dorsal venous arch, complaint of  
pain in the toes. On the 7th day of admission temp.  
still 97, pulse poor. Cyanosed gangrenous patch on  
the dorsum of the foot spreading on to the toes and on  
to the sole. The affected area on the sole is tending  
to spread back on to the heel. Oedema of the leg more  
extensive. On the 8th day of admission patient  
prostrated, very drowsy and semi-conscious, well marked  
gangrene of the right foot - Patient died the same day.



Number of days in Hospital = 8.

Number of days duration of  
fever in Hospital = 4.





Result

Disease

Age 32 yrs.

Name Mrs G. Cooper

Patient's Name:

Information to be sent to:

Notified as \_\_\_\_\_ by Dr \_\_\_\_\_

Admitted to Ward No.

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as \_\_\_\_\_

[illegible]



TEMPERATURE FAHRENHEIT'S SCALE										TEMPERATURE CENTIGRADE SCALE										Result									
1929										1929										1929									
October										November										December									
106°										41°										41°									
105°										40°										40°									
104°										39°										39°									
103°										38°										38°									
102°										37°										37°									
101°										36°										36°									
100°										35°										35°									
99°										34°										34°									
98°										33°										33°									
97°										32°										32°									
96°										31°										31°									
Pulse										Pulse										Pulse									
94										94										94									
104										104										104									
24										24										24									
26										26										26									
2										2										2									
Motions.										Motions.										Motions.									
Urine ozs.										Urine ozs.										Urine ozs.									
Sp. Gr.										Sp. Gr.										Sp. Gr.									
Reaction.										Reaction.										Reaction.									
Chlorides.										Chlorides.										Chlorides.									
Albumen.										Albumen.										Albumen.									
Day of Dis.										Day of Dis.										Day of Dis.									
23										23										23									
25										25										25									
27										27										27									
29										29										29									
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39										39										39									
41										41										41									
43										43										43									
45										45										45									



History

Disease

Age 22 yrs

Name Mrs. J. Cooper

Patient's Name

Information to be sent to

Notified as by Dr.

Admitted to Ward No.

Transferred to Ward No. date

Discharged date as





Patient's Name \_\_\_\_\_

*Information to be sent to:*

Notified as \_\_\_\_\_ by Dr. \_\_\_\_\_

Admitted to Ward No.

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as \_\_\_\_\_

[illegible]

Case 123.

Mrs. J.C. Aet 32 years. Primipara. Previous Infectious Diseases = Measles, Mumps.

History: 4/10/29. Forceps Delivery. Labour lasted 56 hours. Placenta removed. by Crede's method, after which she was very collapsed. 6/10/29 Temp. 102, Pulse 100. 7/10/29. Rigors. Temp. 103, Pulse 144. Lochia inoffensive.

Admitted to hospital on the 4th day of the puerperium and 72nd day of disease. Temp. 101 Pulse 140.

Clinical Notes: Patient looks ill. Face pale.

Anxious expression. Abdomen: Fundus of uterus below umbilicus, firm but tender on palpation.

Tenderness also present low down in both Iliac fossae - no swelling or thickening palpable.

Cervix: lacerated. Oedematous and swollen. Slight discharge from the uterus - inoffensive smell.

Vagina: lacerations of both walls present. Perineum: torn, septic sutures removed.

Blood Culture = Haemolytic Streptococci.

Wassermann = Negative.

Catheter specimen of urine = No casts, no pus cells, no organisms.

Uterine Culture = Haemolytic Streptococci  
(Streptococcus Pyogenes).

Blood Picture = Erythrocytes = 3,000,000.

Haemoglobin = 40%. Colour Index = .6. Leucocytes = 28,200.

Polymorphs = 88%. Lymphocytes = 7%.



Large mononuclears = 4%.

Eosinophils = 1%.

Dick Test = Negative (22nd day of disease).

Treatment and Progress:

20 c.c. Scarlet Fever antitoxin on day of admission.

20 c.c. Scarlet Fever antitoxin on day following admission. Temp. 100, Pulse 128.

Glycerine Treatment. Femergin. Collosol Argentum. Sulfarsenol. Quinine bihydrochlor gr. X Radiostoleum.

During her first 12 days in hospital, patient ran a swinging temperature. Four injections of Collosol Argentum (12 c.c.) were given intravenously on alternate days.

After 12 days in hospital temp. still kept swinging (reaching 103) and patient commenced to have rigors daily for another 10 days. On the 13th, 14th and 15th days of admission patient was given 6 cgm. of sulfarsenol each day.

On the 22nd day of admission patient was started on a weekly course of quinine bihydrochloride gr. X daily (intramuscularly).

Abdomen now appeared a little distended. Marked tenderness on palpation over the site of the Broad Ligaments - evidently pelvic inflammation present. Leucocyte Count = 26,000. Polymorphs = 85%.

Lymphocytes = 10%. Large mononuclears = 3%.

Eosinophils = 2%.

Patient had rigors on her 24th and 25th days of admission. The pulse although fast and soft was never over 130 - usually round about 120.

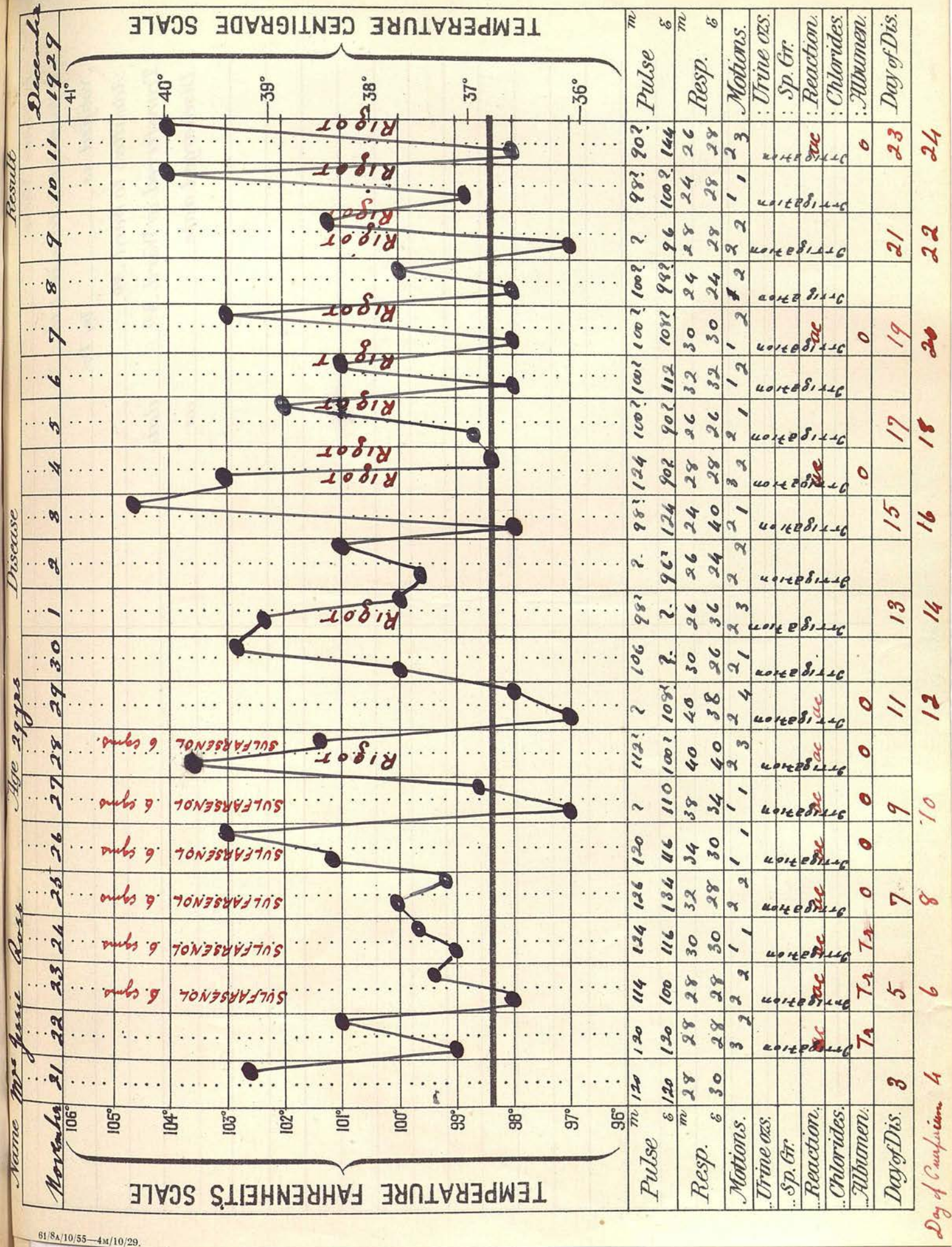
Patient put on radiostoleum 1 capsule t.i.d. The temp. became normal on the 29th day of admission and remained so for 3 days, but on the 4th day (i.e. 33rd day of admission) patient had another rigor. (Temp. 102). However, after this patient proceeded to make a good recovery,

Number of days in hospital = 56.

Number of days duration of

fever in hospital = 25.







Name Mrs

*Information to be sent to:*

Notified as \_\_\_\_\_ by Dr \_\_\_\_\_

Admitted to Ward No.

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as \_\_\_\_\_





Patient's Name \_\_\_\_\_

Information to be sent to \_\_\_\_\_

Notified as \_\_\_\_\_ by Dr \_\_\_\_\_

Admitted to Ward No.

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as \_\_\_\_\_

[illegible]



Case 124.

Mrs J.R. Aet. 29 years. Multipara. Previous Infectious Diseases - nil.

History:- 18/11/29. Normal Delivery. 19/11/29.

Headache. Elevated temperature. 21/11/29. Diarrhoea. Admitted to hospital on the fourth day of puerperium and third day of disease. Temp. 102.6. Pulse 120.

Clinical Notes:- Face flushed. Expression anxious.

Patient looks ill.

Abdomen - Fundus of uterus in the mid-line between umbilicus and symphysis, slightly tender on pressure. No tenderness in the right or left iliac fossae.

Cervix - oedematous and swollen. Small laceration noted. Very slight mucoid discharge from the uterus, inoffensive.

Vagina and Perineum - no tears present.

Pulse very soft and rapid.

Blood Culture - Negative on admission. Haemolytic Streptococci (Streptococcus Pyogenes) found in the blood in the fifth week of admission (22/12/29)

Wassermann - Negative.

Catheter specimen of Urine - No Casts. No pus cells. No Organisms.

Uterine Culture - Haemolytic Streptococci (Streptococcus Pyogenes)

Blood Picture - Erythrocytes - 3,700,000. Haemoglobin - 68%. Colour Index - .9. Leucocytes - 15,400. Polymorphs - 84% /

84%. Lymphocytes - 8%. Large mononuclears - 6%. Eosinophils - 1% Basophils - 1%.

Dick Test - Negative (3rd day of disease).

Treatment and Progress - Glycerine Treatment. Femer: gin. Sulfarsenol 6 cgms. daily for 6 days.

Five days after admission - Temp. 103. Pulse 120 and extremely soft. Patient complaining of severe pain in the toes. Right foot bluish in colour and cold on palpation. Small discoloured bluish area on the dorsum of the left foot - commencing gangrene of the feet. Patient was now kept flat in bed and the feet slightly raised - to prevent stasis.

Patient now having rigors and swinging a high temperature. Three days later discoloured area on the dorsum of the right foot extending upwards and laterally. No pulsation of dorsalis pedis artery obtained. No physical signs in the heart suggestive of ulcerative endocarditis - pulse extremely soft.

As seen from the attached temperature chart patient began to have daily rigors. Started on Quinine hydrochlor gr. IX daily for seven days.

On the 20th day of admission temperature 104. Pain very severe in the feet in spite of treatment with sodium nitrite <sup>i</sup>gr. I t. i. d. and morphia injections /



injections. Gangrene of the right foot - line of demarcation present just above the middle of the dorsum of the foot. Left foot also quite cold and blue in colour - no definite line of demarcation present.

Patient continued to run a high swinging temperature with rigors for a further fifteen days. In spite of digitalis, stimulants, etc. pulse became very weak and patient ultimately died on her 37th day of admission. Just before death patient developed Haemolytic Jaundice, with petechial and small purpuric spots scattered over the trunk and extremities.

A blood culture taken off five days before death showed the presence of haemolytic streptococci in the blood stream.

Number of days in hospital ..... 37

Number of days duration of fever  
in hospital ..... 33.

Name Mrs Mary Harris

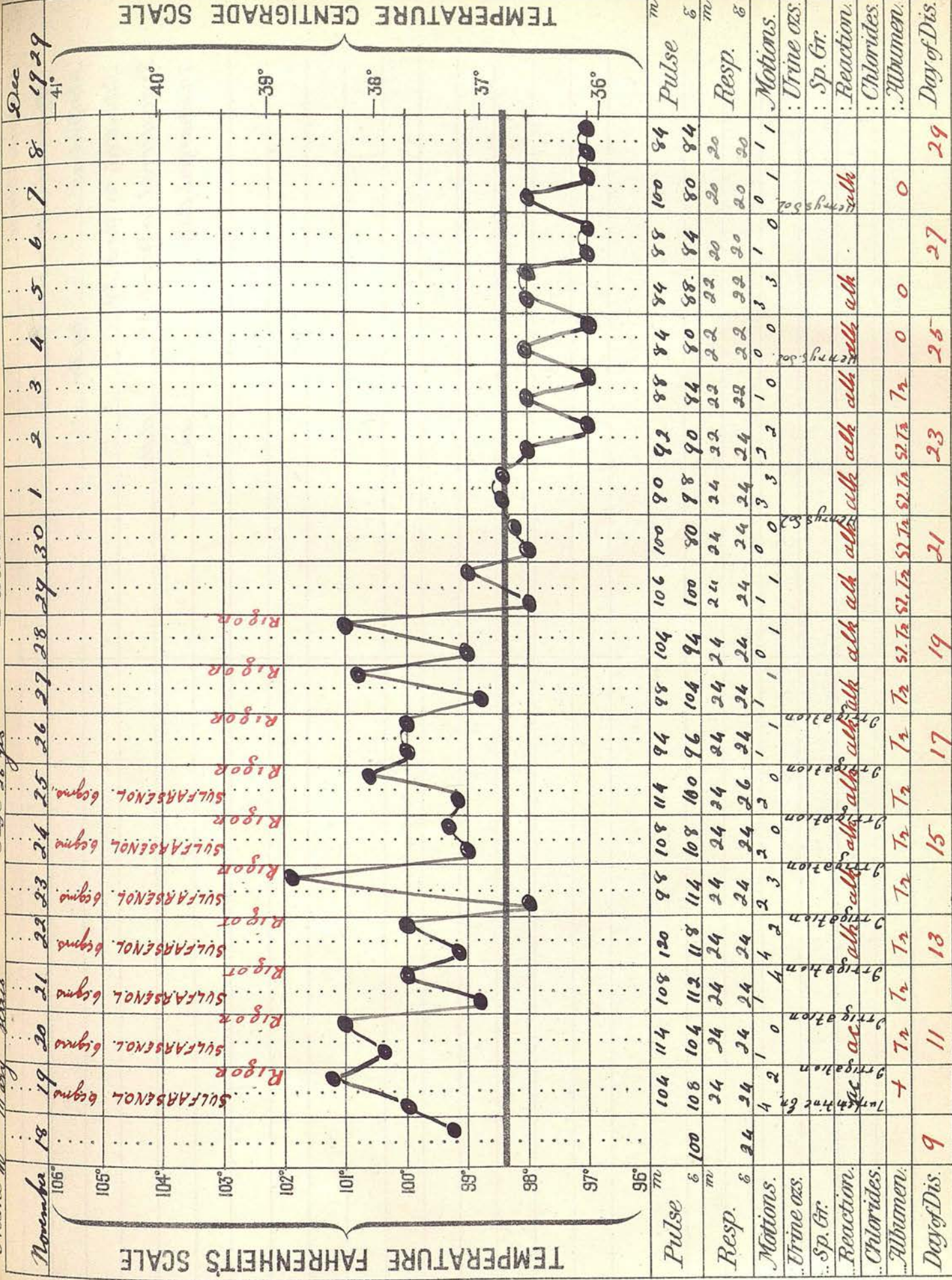
Age 26 yrs

Disease

Result

TEMPERATURE FAHRENHEIT'S SCALE

TEMPERATURE CENTIGRADE SCALE



Day of Quarantine 9



*continued*

Discharged date \_\_\_\_\_ as \_\_\_\_\_

Name Mrs Mary Jones Age 26 yrs Disease Result

December

TEMPERATURE FAHRENHEIT'S SCALE

TEMPERATURE CENTIGRADE SCALE

Pulse	Resp.	Motions.	Urine ozs.	Sp. Gr.	Reaction.	Chlorides.	Albumen.	Day of Dis.
m	m							
84	20	0			alk		0	30
80	20	2			alk		0	32
82	22	1			alk		0	33
88	20	0			alk		0	34
88	20	1			alk		0	35
82	20	1			alk		0	36
80	20	0			alk		0	37
82	20	0			alk		0	38
80	20	0			alk		0	39
80	20	0			alk		0	40
80	20	0			alk		0	41
80	20	0			alk		0	42
80	20	0			alk		0	43
80	20	0			alk		0	44
80	20	0			alk		0	45
80	20	0			alk		0	46
80	20	0			alk		0	47
80	20	0			alk		0	48
80	20	0			alk		0	49
80	20	0			alk		0	50

Day of Quarantine 30



Patient's Name:

Information to be sent to:

Notified as \_\_\_\_\_ by Dr. \_\_\_\_\_

Admitted to Ward No.

Transferred to Ward No. \_\_\_\_\_ date \_\_\_\_\_

Discharged date \_\_\_\_\_ as

[illegible]

Case 125.

Mrs M. F. Aet. 26 years. Primipara. Previous  
Infectious Diseases - nil.

History:- 10/11/29. Forceps Delivery (after being in  
labour 50 hours - maternal distress - Loss of foetal  
heart sounds). At delivery uterine contents  
very offensive. Perineum required suturing. 25 c.c.  
antistreptococcal serum given intravenously and  
25 c.c. antistreptococcal serum given intramuscul:  
arly. Since delivery pulse averaged about 100.  
Temp. never above 99.

16/11/29. Rigor. Temp. 101.5. 17/11/29 Temp 102.

18/11/29. Rigor. Temp. 105. Pulse 120. Lochia  
offensive.

Admitted to hospital on the 9th day of the puer:  
perium and 9th day of disease. Temp. 99.2. Pulse 100

Clinical Notes:- Patient pale and anaemic.

Abdomen - Fundus of uterus in mid-line just below  
umbilicus. Tender on palpation. Tenderness on  
pressure in the right and left iliac fossae.

Cervix - Swollen and congested. Both lips lacer:  
ated. Copious very fetid discharge from the uterus.

Vagina - small lacerations and sloughing areas on  
both walls. Perineum - large irregular tear ex:  
tending into the rectum.

Blood Culture - B. Coli.

Wassermann - Negative.

Catheter specimen of urine - No Casts. Pus Cells  
+++ . B. Coli +++.

Uterine Culture - B.Coli. Few Non-haemolytic  
Streptococci (Streptococcus  
non-haemolyticus 1.)

Blood Picture:- Erythrocytes - 3,300,000. Haemo-  
globin - 55%. Colour Index - .8  
Leucocytes - 22,000. Polymorphs -  
88%. Lymphocytes - 8%. Large  
mononuclears - 2%. Eosinophils -  
1%. Basophils  $\frac{1}{2}\%$ .

Dick Test - Negative (9th day of disease).

#### Treatment and Progress.

Glycerine Treatment. Femergin. Sulfarsenol  
6 cgms. daily for seven days. Mist.Pot.Cit.et Sod.  
Bic. Later given Caprokol 2 to 3 capsules thrice  
daily.

This patient ran a swinging temperature for  
11 days. Each day she had a rigor or shivering.

Four days after admission there was still mark:  
ed tenderness elicited in both iliac fossae - some  
pelvic cellulitis present. After 11 days temperature  
settled and patient made an excellent recovery, - the  
perineum and vagina healing well. The urinary condi:  
tion also cleared up satisfactorily.

Number of days in hospital ..... 36

Number of days duration of fever  
in hospital ..... 12.

Miscellaneous group including mental disturbances,  
breast troubles, Scarlet Fever, Paratyphoid B.,  
and other conditions consequent on, or  
complicating the puerperal state.



## TEMPERATURE CENTIGRADE SCALE

Discharged 20-7-29



Pulse	98	100	104	92	104	80	80	80	80	80	84	120	112	110	100	126	120	112	116	112	100	120	m	
Resp.	26	24	28	30	28	26	26	26	26	24	24	24	24	24	24	26	26	26	28	26	26	26	28	ε
Motions.	1	1	1	0	1	0	0	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	m
Urine ozs.																								ε
Sp. Gr.	1.025	1.025	1.025	1.025	1.025	1.025	1.025	1.025	1.025	1.025	1.025	1.025	1.025	1.025	1.025	1.025	1.025	1.025	1.025	1.025	1.025	1.025	1.025	ε
Reaction.	alk	alk	alk	alk	alk	alk	alk	alk	alk	alk	alk	alk	alk	alk	alk	alk	alk	alk	alk	alk	alk	alk	alk	ε
Chlorides.	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	ε
Albumen.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	ε
Day of Dis.	5	7	9	11	13	15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	45	47	49	ε



Patient's Name

Information to be sent to

Notified as by Dr

Admitted to Ward No

Transferred to Ward No date

Discharged date as







Result

Disease

Age 24 yrs

Bone Len

Name Ina

Patient's Name

Information to be sent to

Notified as by Dr

Admitted to Ward No

Transferred to Ward No date

Discharged date as







Case 126.

Miss I.B. Aet 24 years. Primipara. Previous Infectious Diseases = Unknown.

History: 20/5/29 Normal delivery, but foetus macerated and hydrocephalic. Patient suffering from bronchitis. 21/5/29 Temp, 99, pulse 100. 22/5/29 Temp. 100.8, pulse 108. Developed a bright red confluent rash on inner sides of legs and on buttocks. Rash not itchy, no enema had been administered. 23/5/29 Temp. 102.8, lochia inoffensive but profuse. 50 c.c. antistreptococcal serum and 20 c.c. collosol iodine given intravenously, quinine hydrochlor. 1c.c. intramuscularly.

Admitted to hospital on the 5th day of the puerperium and 5th day of disease. Temp. 102.8, pulse 98.

Clinical Notes: Face slightly flushed, skin hot and moist, tongue dry with brownish coat. Abdomen: slightly tumid. Fundus of uterus 2 inches below the umbilicus, firm and slightly tender. No tenderness on palpation over the broad ligaments. Spleen - is palpable and tender. Liver: not enlarged. Patient constipated. Throat appears normal. Cervix, Vagina and Perineum: nothing abnormal to note. Rash: very bright and slightly raised non-itchy erythema distributed over the inner aspects of both arms. Skin is soft and displays dermographia. Chest: bronchitis present.

Blood Culture = Negative.

Wassermann = Negative.

Case 126.

Miss I.B. Aet 24 years. Primipara. Previous Infectious Diseases = Unknown.

History: 20/5/29 Normal delivery, but foetus macerated and hydrocephalic. Patient suffering from bronchitis. 21/5/29 Temp, 99, pulse 100. 22/5/29 Temp. 100.8, pulse 108. Developed a bright red confluent rash on inner sides of legs and on buttocks. Rash not itchy, no enema had been administered. 23/5/29 Temp. 102.8, lochia inoffensive but profuse. 50 c.c. antistreptococcal serum and 20 c.c. colloidal iodine given intravenously, quinine hydrochlor. 1c.c. intramuscularly.

Admitted to hospital on the 5th day of the puerperium and 5th day of disease. Temp. 102.8, pulse 98.

Clinical Notes: Face slightly flushed, skin hot and moist, tongue dry with brownish coat. Abdomen: slightly tumid. Fundus of uterus 2 inches below the umbilicus, firm and slightly tender. No tenderness on palpation over the broad ligaments. Spleen - is palpable and tender. Liver: not enlarged. Patient constipated. Throat appears normal. Cervix, Vagina and Perineum: nothing abnormal to note. Rash: very bright and slightly raised non-itchy erythema distributed over the inner aspects of both arms. Skin is soft and displays dermographia. Chest: bronchitis present.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = no casts, a few  
pus cells, no organisms.

Uterine Culture = Sterile (no growth).

Blood Picture = Erythrocytes = 4,750,000.

Haemoglobin = 82%. Colour

Index = .8. Leucocytes =

21,400. Polymorphs = 82%.

Lymphocytes = 18%.

Dick Test = Positive (5th day of disease).

#### Treatment and Progress:

50 c.c. antistreptococcal serum (puerperal) on  
day of admission.

50 c.c. antistreptococcal serum (puerperal) on  
day following admission.

Glycerine Treatment. Femergin. Quin. sulph.  
gr.  $\frac{iii}{iii}$  t.i.d.

Patient ran an intermittent temp. for 22 days -  
temp. swinging between 101 or 102 in the evening and  
98.4 or so in the morning. Pulse about 120 - never  
much more over 120. After swinging this temp. for 14  
days typhoid fever or paratyphoid fever was suspected  
as there was nothing much locally or generally to  
account for it. Widal reaction, however was negative.  
Examination of the stools and urine for typhoid were  
negative. Examination of the urine showed nothing  
except a few pus cells. Patient was still on Mist.  
pot. cit et sod. bic. and although the urine was now  
alkaline the temp. continued to swing. A blood  
culture taken off for typhoid fever was negative.



At the end of three weeks the chest showed an extensive bronchitis. A Widal test 21 days after admission was negative. On the 23rd day of admission temp. remained at normal and did not rise again until the 28th day when it rose to 100. A Widal test performed 26 days after admission I found to be positive to b. paratyphosus B. (agglutination up to 1 in 480). The diazo reaction was negative throughout the illness. Typhoid fever was suspected all along and the patient treated on that assumption, but it was well into the fourth week in hospital before I found the Widal reaction to be positive. The patient, however, made an excellent recovery; Before discharge from hospital patient had her stools and urine examined on three separate occasions for b. paratyphosus B., and on each occasion the result was negative. This case was a very interesting one being a mild uterine infection complicated by paratyphoid B.

Number of days in hospital = 59.

Number of days duration of

fever in hospital = 24.

Case 127.

Mrs. M. McD. Aet 32 years. Multipara. Previous Infectious Diseases = Scarlet Fever.

History: 6/7/29. Normal Delivery. 14/7/29 Left breast painful. 22/7/29. Shivering, headache, haemorrhage.

Admitted to hospital on the 29th day of the puerperium and 21st day of disease. Temp. 102, Pulse 120.

Clinical Notes: Face very pale and anaemic.

Abdomen: No tenderness on palpation. Fundus of uterus low down behind the symphysis, firm, no tenderness. No tenderness in the Iliac fossae.

Cervix: no lacerations. Some darkish blood issuing from uterus. Vagina and Perineum: No lacerations.

Left breast: abscess present.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = no casts, no pus cells, no organisms.

Uterine Culture = Not taken.

Blood Picture = Erythrocytes = 1,925,000.

Haemoglobin = 31%. Colour

Index = .8. Leucocytes =

12,400. Polymorphs = 78%.

Lymphocytes = 14%. Large

mononuclears = 5%. Eosinophils

= 3%.

Treatment and Progress:

Hot fomentations to affected breast.

Case 127.

Mrs. M. McD. Aet 32 years. Multipara. Previous Infectious Diseases = Scarlet Fever.

History: 6/7/29. Normal Delivery. 14/7/29 Left breast painful. 22/7/29. Shivering, headache, haemorrhage.

Admitted to hospital on the 29th day of the puerperium and 21st day of disease. Temp. 102, Pulse 120.

Clinical Notes: Face very pale and anaemic.

Abdomen: No tenderness on palpation. Fundus of uterus low down behind the symphysis, firm, no tenderness. No tenderness in the Iliac fossae.

Cervix: no lacerations. Some darkish blood issuing from uterus. Vagina and Perineum: No lacerations. Left breast: abscess present.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = no casts, no pus cells, no organisms.

Uterine Culture = Not taken.

Blood Picture = Erythrocytes = 1,925,000.

Haemoglobin = 31%. Colour

Index = .8. Leucocytes =

12,400. Polymorphs = 78%.

Lymphocytes = 14%. Large

mononuclears = 5%. Eosinophils = 3%.

Treatment and Progress:

Hot fomentations to affected breast.

Syr Lactophos Calcium t.i.d.

Patient ran a slight temp. until 4th day of admission when the abscess of the left breast was incised and a pint of thick yellow pus was evacuated. Streptococci present in the pus. Two days later temp. rose to 102. Pulse 110-120. Temp. after two days up, fell to normal - breast now draining well. Patient made a good recovery, the breast healing well after all the pus had been discharged.

Number of days in hospital = 22.

Number of days duration of

fever in hospital = 7.



Case 128.

Mrs. H.W. Aet 30 years. Multipara. Previous Infectious diseases = Scarlet Fever, Chicken-pox Measles and Mumps.

History: 15/1/29. Forceps delivery. 3/1/29 headache, shivering, sore throat. 3/2/29 rash appeared. Admitted to hospital on the 20th day of the puerperium and 5th day of disease. Temp. 102.6, pulse 108.

Clinical Notes: A very patchy and blotchy multiform erythema present on the face, arms and legs, rash tends to be miliary on the arms. Trunk practically free. Fauces: much inflamed with some exudate on the tonsils. Neck: adenitis present. Abdomen: nothing abnormal to note. Fundus of uterus not palpable. Cervix, Vagina and Perineum: not examined by the naked eye. Patient restless, somewhat unruly and unwilling to answer questions. Case suggests a tonsillitis with a septic rash (erythema multiforme). Aspirin and quinine are possible causal factors of the rash but unlikely as patient is running such a high temperature.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = No casts, no pus cells, no organisms.

Uterine Culture = Not taken.

Throat swab = negative for B. diphtheriae.

Blood Picture = Erythrocytes = 3,878,000.

Haemoglobin = 58%. Colour In-

dex = .7. Leucocytes = 14,800.

Polymorphs = 72%. Lymphocytes = 23%.

Large Mononuclears = 3%. Eosinophils = 1%. Basophils = 1%.

Treatment and Progress:

Gargles (hydrogen peroxide). Inhalations tinct. benzoin. Salicin gr. XX four hourly, Calomel nocte. On the day following admission temp. 98.4, pulse 110 to 116. Rash on legs and arms morbilliform in type. Large blotchy patches still present on the face. Evidently a septic erythema. Two or three days later temp. still rising to 99, pulse slower, about 90. Patient had now developed marked hallucinations and delusions. A case of puerperal insanity but little to show locally as a cause of it. After 10 days in hospital patient was removed to the Asylum.

Number of days in hospital = 10.

Number of days duration of

fever in hospital = 5.

Case 129.

Mrs. J.S. Aet 23 years. Primipara. Previous Infectious Diseases = nil.

History: 23/10/29. Forceps Delivery. 30/10/29

Temp. elevated. Shivering. Offensive lochia.

4/11/29. Rigor and sweats. 6/11/29 Coughing up blood stained sputum.

Admitted to hospital on the 15th day of the puerperium and 9th day of disease. Temp. 99.6, Pulse 116.

Clinical Notes:

Patient very pallid and anaemic, appears ill.

Abdomen: Fundus of uterus midway between umbilicus and symphysis, firm on palpation but tender. Some tenderness also present to the right of the body of the uterus. Cervix: anterior lip swollen, congested, shows a fairly large sloughing area evidently due to laceration.

Perineum and Vagina: tear of posterior vaginal wall running into a perineal tear which extends into the rectum. Faecal contents in vagina. Offensive discharge from the uterus - profuse in amount.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = A few epithelial casts. Numerous epithelial cells. Pus cells and red blood corpuscles present. B. Coli ++.

Uterine Culture = B. Coli.

Blood Picture = Erythrocytes = 2,600,000.

Haemoglobin = 45%. Colour  
 Index = .9. Leucocytes = 9,800.  
 Polymorphs = 64%. Lymphocytes =  
 27%. Large mononuclears = 6%.  
 Eosinophils = 3%.

Dick Test = Negative (9th day of disease).

Treatment and Progress:

Glycerine Treatment. Femergin. Mist Pot Cit et Sod  
 Bic. Acid sodium phosphate and hexamine (after 14  
 days in hospital). Bromidia. Hyoscine and morphia  
 injections when required.

During the night after admission patient became  
 quite maniacal and attempted to get out of bed.  
 For days after admission patient had delusions, was  
 very confused and noisy. She had to be strapped into  
 bed. This was a good case of Puerperal Insanity -  
 maniac depressive type. Patient ran a swinging temp-  
 erature for about a week following admission - then  
 the temperature settled but pulse remained fast -  
 just over 100. The discharge from the uterus  
 cleared up but patient's mental condition did not  
 improve so after 27 days in hospital she was trans-  
 ferred to Jordanburn Mental Hospital.

Number of days in hospital = 27.

Number of days duration of

fever in hospital = 5.



Case 130.

Mrs. D. Aet 25 years. Primipara. Previous Infectious Diseases = Measles.

History: 20/3/29. Forceps delivery after 71½ hours in labour. Vagina and perineum torn. 22/3/29.

Temp. 101, Pulse 116. Oedema of labia. 23/3/29

Temp. 101, Pulse 112. Lochia normal - perineum sloughing. 24/3/29. Temp. 100, Pulse 104.

Lochia profuse, Not offensive. 25/3/29. Temp. 104, Pulse 124. 26/3/29. Temp. 103.2, Pulse 132.

Sore throat. Rash on trunk and arms.

Admitted to hospital on the 7th day of the puerperium and 6th day of disease. Temp. 101, Pulse 124.

Clinical Notes: Rash: Punctate erythema on trunk and extremities. No rash on face. No circum-oral pallor. Tongue furred, papillae not prominent. Throat: Soft Palate red. Uvula and tonsils congested. No exudate present. A Schultz-Charlton test was performed - this consisted in the intradermal injection of .2c.c. of a 1 in 10 dilution of Scarlet Fever antitoxin - performed in the brightest part of the rash. On the following day (24 hours later) there was a well marked blanched area. The patient was suffering from Scarlet Fever as well as an infection of the uterus.

Abdomen: Fundus of uterus normal in position - tender on palpation. Cervix: badly lacerated. Vagina: torn. Perineum: lacerated. The sutures in the vagina and perineum have gone septic, so removed.

Blood Culture = Negative.

Wassermann = Negative.

Catheter specimen of urine = No casts, no pus cells, no organisms.

Uterine Culture = not taken.

Blood Picture = Erythrocytes = 3,500,000.

Haemoglobin = 55%. Colour Index =

.7. Leucocytes = 12,000.

Polymorphs = 85%. Lymphocytes = 7%. Large mononuclears = 6%.

Eosinophils = 2%.

Treatment and Progress: On day after admission transferred from puerperal side ward to scarlet fever ward and given 20 c.c. scarlet fever antitoxin Glycerine Treatment. Femergin. Throat irrigations. Mist Pot Cit et Sod Bic although no pyelitis present. Temp. remained about 100 until the 4th day of admission when it became normal for 2 days, pulse still fast however.

Temp. then rose again to 102.6, and 104.4 (evening) on the 8th day of admission. On examination - Heart: apex beat over the 6th rib (left) about  $4\frac{1}{2}$  inches from the mid-line. A suggestion of a presystolic thrill and a roughness of the first sound at a point internal to the nipple. No definite presystolic murmur on auscultation. Second sound at base of the heart not markedly accentuated. Lungs: a few crepitations at the left base, no dullness, etc. No phlebitis present. Leucocyte Count = 21,200.

After this temp. settled and patient proceeded to a long but normal convalescence.

This was a case of Scarlet Fever complicating a uterine infection. A blood count five weeks after admission showed:

Erythrocytes = 4,000,000. Haemoglobin = 75%.

Colour Index = .9. Leucocytes = 8,000.

Polymorphs = 67%. Lymphocytes = 32%.

Eosinophils = 1%.

Red Blood Corpuscles and Haemoglobin increased and more satisfactory.

Patient made an excellent recovery.

Number of days in hospital = 52.

Number of days duration of

fever in hospital = 6.

## S Y M P T O M S .

The symptoms of the disease vary according to the severity, or extent of the infection, and according to the type of infecting organism.

Certain general symptoms are however common to all forms of puerperal infection. A rise of temperature is usually the earliest sign. A temperature of over 100°F. during the first ten days after delivery, especially if maintained for more than 24 hours, or repeated on more than one occasion, should lead to careful investigation.

The usual course of the disease is somewhat as follows:-

After everything has gone smoothly for the first few days subsequent to delivery, the patient suddenly experiences some malaise, and complains of headache, and a feeling of chilliness which may amount to a severe fit of shivering. The temperature will be found to have risen more or less rapidly to 103°F. or higher. The pulse rate is increased. Loss of appetite is common. Insomnia may be present. Vomiting and Diarrhoea are rare apart from cases suffering from General Peritonitis.

The further course of the disease varies according as the infectious process remains limited to the uterine cavity, or extends beyond it. Inflammation /



tion of the surrounding pelvic tissues may follow, with resulting abscess formation. The Pelvic veins may be involved in the general inflammation and a thrombophlebitis may occur causing interference with the circulation, and so give rise to marked swelling of the lower limbs, which may persist for weeks or months.

In the most severe cases - the general infections of the blood stream - practically any tissue of the body may become involved in the inflammatory process, the abdomen, the lungs, the heart, etc. and widespread multiple abscesses may result. The duration of the illness depends, as I have already mentioned, on two factors:- The virulence of the infecting organism, and the resisting or fighting power of the patient.

In the most rapidly fatal form of infection, death may occur within two or three days. In other cases the illness may drag on for weeks, or even months, resulting ultimately in either death from exhaustion, or recovery by a tardy convalescence. Recovery in many cases may be more apparent than real, the damage done by the infecting organism resulting in years of chronic ill-health.

The following table indicates the onset of pyrexia in 130 cases. It shows the day on which the pyrexia started in cases in which recovery took

place and in which death occurred.

(0 - the day on which the labour finished.)

<u>Day</u>	<u>Recovered.</u>	<u>Died.</u>
0 .....	21 .....	5
1 .....	19 .....	4
2 .....	20 .....	3
3 .....	14 .....	4
4 .....	9 .....	0
5 .....	3 .....	4
6 .....	7 .....	0
7 .....	7 .....	0
8 .....	2 .....	0
9 .....	1 .....	0
10 .....	2 .....	0
11 .....	0 .....	0
12 .....	1 .....	0
13 .....	0 .....	0
14 .....	0 .....	0
15 .....	1 .....	0
16 .....	1 .....	0
Unknown .....	1 .....	1
	<hr/> 109	<hr/> 21

In 76.2 per cent the onset was in the first four days.

In 76.2 per cent of the fatal cases the onset was in the first four days.

#### RIGORS.

In 32 cases the presence of rigors was noted. Profuse sweating which was possibly an abortive rigor, occurred in 3 cases.

In 11 cases the rigor occurred at the onset of fever. In 14 cases rigors were repeated or developed later. In 7 cases rigors were noted almost daily for days or weeks.

Rigors /

Rigors undoubtedly indicate a severe form of puerperal infection, but one cannot foretell the future course of the disease on the presence or absence of rigors. Case 125 for example, had a rigor daily for 10 consecutive days. This case made an excellent recovery. This case was a B. Coli Septicaemia.

Case 124 on the other hand, had a rigor almost daily for 30 days. This case ended fatally - the blood culture giving a pure growth of Streptococcus Pyogenes.

#### The Lochia.

The character of the lochia appears to depend on the type of infecting organism.

In most of the cases of local uterine infection which had copious offensive lochia, the uterine culture invariably gave a mixed growth (Streptococci and Staphylococci, or Gram positive bacilli, B. Coli, diphtheroids, etc.)

These cases usually responded excellently to Glycerine treatment. On the other hand I noted that in my septicaemic cases the lochia seldom showed much change.

In 23 out of 26 cases of General Infections of the blood stream the condition of the lochia was as follows:-

In 6 cases there was no change observed.

In /

In 2 cases it was thin and clear yellow in colour.

In 7 cases it was slightly blood-stained but quite inoffensive.

In 2 cases it was yellowish and only slightly offensive.

In 5 cases it was offensive but moderate in amount.

In 1 case it was very fetid and profuse in amount.

(This was Case 125 - a pure growth of B.Coli was obtained on uterine culture.)

#### OTHER SYMPTOMS.

Headache was complained of by 58 patients (44.6%).

Shivering was present in 44 cases (33.8%).

Abdominal pain was complained of by 31 patients (23.8%).

Vomiting was noted in 13 cases (10%)

Three patients complained of pains all over.

One patient complained of pain in the back.

Delirium was noted in 3 cases. Two other cases showed definite mental symptoms without being actually delirious.

Three patients stated they were constipated.

Three other cases had diarrhoea.

One patient suffered from epistaxis, another from earache.

#### DIAGNOSIS.

The diagnosis of puerperal infection in the early stage is not always easy, as a rise of tempera:



ture occurring within 10 days of delivery may be due to other causes. As the normal period following labour should show no rise of temperature, it is a safe rule to regard any sign of fever, which persists for more than 12 hours, as due to septic infection, until that cause can be definitely excluded, either by the subsequent progress of the case, or by bacteriological examination.

An increase of pulse rate is also an important early sign. There is no doubt that a uterine swab is of value in the diagnosis of puerperal infection. Let me, however, emphasise the necessity of taking such a swab with every due care. The procedure of examination and the recognition of haemolytic and other organisms on a blood agar plate is a comparatively simple matter.

Blood cultures are also of value in diagnosis but when negative do not exclude serious infection.

#### PROGNOSIS.

The outlook in a severe case of puerperal infection is not hopeful. In such cases one is fortunate if 3 or 4 out of each 10 patients can be saved.

The frequency of the pulse is of the greatest importance from the point of view of prognosis. A pulse /

pulse rate of over 120 makes one unhappy and the more rapid it becomes, the graver the prognosis.

The occurrence of rigors or profuse sweating and a high persistent or remittent temperature with high spikes indicates a severe infection but gives no indication as to what course the case will take.

Absence of lochia, which was common in my cases of septicaemia, seems to be of grave prognostic significance. On the other hand a profuse and fetid lochia did not indicate severe infection and accordingly prognosis was better. A uterine culture is a useful aid to prognosis. The prognosis must be guarded when a pure culture of haemolytic streptococci is obtained from the uterus. The prognosis, however, is favourable when a mixed culture of organisms is obtained.

A blood culture is also of value in prognosis. If positive to haemolytic, non-haemolytic or other organisms the prognosis is very serious, but not altogether hopeless. Another useful help is the leucocyte and differential white blood count. A well marked response by the polymorphonuclear white cells is indicative of good resisting and fighting qualities of the patient. As I have indicated (p.100) a polymorphonuclear leucocytosis of over 24,000 even in the severe and acute infections gives one hope.

## TREATMENT OF PUERPERAL INFECTION.

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The numerous lines of treatment which have been advocated, and the multiplicity of remedies which have been at one time or other employed in an endeavour to cure the disease rather suggests that an effective therapeutic agent has yet to be discovered. The main principles of treatment fall into 3 groups:-

1. General Measures.
2. Bacteriotherapy.
3. Chemotherapy.

### General Measures.

There is no question that efficient nursing in good hygienic surroundings is a fundamental necessity. Much can be done by such general measures as absolute rest in bed, ample fresh air and sunlight, and plenty good nourishing food with water freely. At the City Hospital cases are treated on the open balconies whenever the weather permits.

Elimination by bowels, skin and kidneys is important. A mild laxative or enema should be given if necessary to procure a daily movement of the bowels.

Sleep is another important factor which must be obtained. Bromides, opium and morphia (preferably in small doses) are all suitable anodynes.

Louise /

Louise McIlroy points out that the two essentials in treating Acute Sepsis are open air and daily colon lavage. She states the daily colon lavage clears away the intestinal toxins, and is the most efficient remedy she knows for sepsis.

All my cases of acute sepsis had daily colon lavage and I think it a useful adjunct in treatment.

Local uterine sepsis is manifested by offensive smelling intermittent copious lochial discharge. The elevated temperature is due to (1) Insufficient Drainage, or (2) True infection with virulent organisms.

Organisms present in the puerperal uterus flourish in the disintegrating tissues, but if drainage is satisfactory no toxic absorption should take place.

The main object of treatment is to stimulate uterine drainage and contractions.

I gave my cases of local uterine infection - Femergin M xv. t.i.d.

This is a very useful preparation made by the Sandoz Chemical Company Ltd., It is a .1 per cent solution of ergotamine tartrate and assists in toning up the uterus and helping it to get rid of the lochia.

If the patient is permitted to lie on her back for any length of time, lochia are retained. Hence the Fowler position is essential. If the perineum and /



and vagina have been lacerated and healing is not taking place, any sutures present should be removed and the wounds cleaned up with antiseptics and sitz baths (if practicable).

#### GLYCERINE TREATMENT.

The method of draining the septic uterus by the injection of glycerine, as advocated by Remington<sup>40</sup> Hobbs, was carried out in 99 cases, with very successful results.

To carry out Glycerine Treatment efficiently the patient must be prepared as for a major surgical operation. The method I adopted was as follows:-

The patient was brought to the foot of the bed and put up in the lithotomy position by means of special stirrups fitted into the end of the bed.

The external genital region which had been shaved previous to the operation by the Ward Sister, was cleansed with ether soap and weak lysol solution (1 in 160).

The vagina was then cleansed with weak lysol solution.

A duck-bill or Cusco's bivalve speculum was then introduced into the vagina and the os uteri brought into view. The cervix and the cervical canal were cleansed with a sterile swab. Note was made of any lacerations or bruising of the cervix, vagina or perineum.

At /

At this stage I now proceeded to take the uterine swab as described on page 27.

A long terminal soft-eyed rubber catheter lubricated with glycerine, to the end of which was fitted a 30 c.c. Record syringe filled with glycerine, was then introduced through the cervical canal to the fundus of the uterus. The catheter was introduced by a long pair of forceps and pushed up to the fundus.

30 to 50 c.c., depending on the type of case, was then slowly injected into the uterus. Vulsellum forceps were rarely required. I was only forced to use them in one of my cases. Their use is to be avoided on account of the bruising or injury to the parts they may cause.

After injection of the glycerine the catheter was withdrawn.

83

Page Sutherland recommends that after the injection of the glycerine the catheter be left in situ for four hours to facilitate drainage, as it is of great value in cases with inflammatory occlusion of the cervical canal.

Vaginal and cervical lesions were swabbed with weak tincture of iodine on a sterile swab, or 10% argyrol in spirit.

If there was much laceration or sloughing of the vaginal walls, gauze soaked in hydrogen peroxide (10 vol.) or eusol, was packed into the vaginal cavity.

At all events the cervical canal must be kept clear of all retained products such as pieces of placenta, blood clot and membrane. The swollen and inflamed cervical canal must be reduced in size and so widen the canal for drainage.

39

Hingston and Mudaliar recommend that in cases where there is extensive sloughing of the vaginal walls and cervix - what they term the 'cesspool vagina' - continuous irrigation with a very mild antiseptic is useful. Weak lysol or saline is used and the douche is given continuously except for an interval of 2 hours by day and 4 hours by night. If the perineum is oedematous or badly ulcerated hot boracic compresses should be applied.

As long as there was any pyrexia, or offensive discharge from the uterus persisted, the glycerine irrigation was carried out daily or more often if the case required it. Glycerine Treatment was stopped when the discharge became very slight and the uterus completed involution.

Contra-Indications for Glycerine Treatment were cases suffering from:- (1) Severe Septicaemia, (2) Thrombophlebitis of the pelvic veins or Phlegmasia Alba Dolens.

60

McSwiney has stated that the hygroscopic action of the glycerine might be further augmented by the addition /

addition of anhydrous magnesium sulphate. 3 grams of this salt can be added to 20 c.c. of glycerine without making it too viscid. The magnesium sulphate is sterilised in a hot air sterilizer at 150°c. for one hour, and added to the glycerine before injection into the uterus.

McSwiney has treated, however, only 2 cases of Streptococcal infection of the uterus with this preparation. The results were very successful.

As emphatically laid down and taught by B. P. Watson,<sup>92</sup> on no occasion was the finger or any instrument introduced into the uterus with a view to removing any portion of placenta or membrane. If any fragments of membrane were present they invariably came away under the Glycerine Treatment. On no occasion was an intra-uterine douche ever given.

Abelheim<sup>1</sup> deprecates uterine douching in Puerperal Infection. He also states there is no danger of severe infection arising from the retention of a piece of placenta.

## BACTERIOTHERAPY.

### 1. Vaccine Therapy.

Three of my cases (80, 85 and 102) were treated by vaccines. All recovered. A large number of cases of puerperal infection were treated some years ago in the Edinburgh City Hospital; results, however, were /



were disappointing. At the same time vaccine therapy is worth trying and may be of use in the sub-acute stage of the infection.

Armstrong and Shaw<sup>3</sup> found that streptococcal vaccines gave disappointing results in the treatment of Puerperal Sepsis. Roulland<sup>67</sup> has also stated that vaccine therapy is useless and may be dangerous in states of profound general depression, and asthenia, in very acute septicaemias or when there is cardiac, renal or adrenal deficiency. He is of the opinion that vaccines are most useful in attenuated infections or in the terminal phases of acute ones.

Levy-Solal and Simard<sup>51</sup> treat puerperal fever, directly the temperature rises, by packing the uterus and vagina with gauze soaked in a polyvalent streptococcal vaccine. They have given details of 8 cases which all recovered very quickly. In two of these cases the blood culture was positive before the commencement of treatment.

Van Cauwenberghe<sup>18</sup> states that in treating Puerperal Infection it is essential to isolate the organism concerned and prepare an autovaccine. He also describes auto-haemolysotherapy which he considers hopeful. He mixes 8 c.c. of blood with a solution containing 10 cg. of sodium cacodylate and 5 mg. of calcium chloride dissolved in 20 c.c. of distilled water. /

water. About one-third of this mixture is injected into the buttock and a second and third is injected four or five hours later. This treatment produced no shock and is said to be particularly effective when there is a pure streptococcal infection.

TABLE SHOWING THE VARIOUS MODES OF TREATMENT OF 96 CASES OF PUERPERAL  
INFECTION WITH SERUM, CHEMO-THERAPY AND RADIOSTOLEUM.

Number of Cases.					
	Local Uterine Infections & Pelvic Inflammation.	Gene: rel Peri: toni: tis.	Sep: ti: cae: mias.	Mis: cel: len: leous	Total
Antistreptococcal Serum (Puerperal) .....	37	1	8	-	46
Scarlet Fever Antitoxin .....	8	-	3	1	12
Antistreptococcal Serum (Puerperal) & Scarlet Fever Antitoxin .....	4	1	-	-	5
Sulfarsenol .....	6	-	2	-	8
Antistreptococcal Serum (Puerperal) & Sulfarsenol .	3	-	3	-	6
Scarlet Fever Antitoxin & Sulfarsenol .....	1	-	1	-	2
Antistreptococcal Serum (Puerperal) & Quinine bichloride .....	2	-	-	-	2
Scarlet Fever Antitoxin & Quinine bichloride .	1	-	-	-	1
Antistreptococcal Serum (Puerperal) & Collosoi Argentum .....	1	-	-	-	1
Antistreptococcal Serum (Puerperal), Sulfarsenol and Quinine bichloride .....	1	-	-	-	1
Antistreptococcal Serum (Puerperal) & Mercurochrome Sodium Cacodylate .....	1	1	-	-	2
Sulfarsenol and Radiostoleum .....	1	-	-	-	1
Antepneumococcal Serum .....	-	1	-	-	1
Antistreptococcal Serum (P), Scarlet Fever Antitoxin and Sulfarsenol .....	-	-	1	-	1
Antistreptococcal Serum (P), Sulfarsenol & Collosoi Manganese .....	-	-	1	-	1
Antistreptococcal Serum (P), Sulfarsenol & Mercurochrome .....	-	-	1	-	1

SERUM THERAPY.

Number of Cases.

TABLE SHOWING THE VARIOUS MODES OF TREATMENT OF 96 CASES OF PUERPERAL INFECTION WITH SERUM, CHEMO-THERAPY AND RADIOSTOLEUM.					Local Uterine Infections & Pelvic In: Inflammation	Gene: ral Peri: toni: tis.	Sep: ti: cae: mias	Mis: cel: len: eous.	Total
Antistreptococcal Serum (P) and Radiostoleum ....					-	-	1	-	1
CollosoI Iodine and Sulfarsenol .....					-	-	1	-	1
(Scarlet Fever Antitoxin, CollosoI Argentum, )					-	-	1	-	1
Sulfarsenol					-	-	1	-	1
(Quinine bilydrochloride and Radiostoleum )					-	-	1	-	1
Antistreptococcal Serum (P), CollosoI Iodine and					-	-	-	1	1
Quinine bilydrochloride .....					-	-	-	1	1
					67	4	23	2	96

I gave most of my cases which received serum a minimum dose of 50 c.c. Antistrep:  
tocooccal puerperal serum. In many cases this dose was repeated on the following day  
and again on the third day - in all a total of 150 c.c. of serum.

If Scarlet Fever Antitoxin was given, a minimum dose of 20 c.c. concentrated serum  
was administered. This in several cases was repeated on successive days - up to 80 c.c.  
being given.

Most of my cases received serum by the intramuscular route.



ANALYSIS OF 23 CASES OF GENERAL INFECTION OF THE  
BLOOD STREAM TREATED BY SERUM AND CHEMO-THERAPY.

	Num: ber of Cases	Number of Cases with Positive Blood Cul: tures.	Died.	Propor: tion of Deaths.
Antistreptococcal Serum (Puerperal) .....	8	6	7	87.5%
Scarlet Fever Antitoxin ..	3	2	3	100%
Sulfarsenol .....	2	1	2	100%
Antistreptococcal Serum (Puer: peral) & Sulfarsenol ...	3	1	1	33%
Scarlet Fever Antitoxin & Sulfarsenol .....	1	1	1	100%
Antistreptococcal Serum (P) Scarlet Fever Antitoxin & Sulfarsenol .....	1	1	1	100%
Collosol Iodine & Sulfarse: nol .....	1	0	1	
Antistreptococcal Serum (P) Sulfarsenol & Collosol Manganese .....	1	1	0	
Antistreptococcal Serum (P) Sulfarsenol & Mercuro: chrome .....	1	1	1	
Antistreptococcal Serum (P) & Radiostoleum .....	1	1	0	
(Antistreptococcal Serum (P) ( Collosol Argentum, ( Sulfarsenol, ( Quinine bihydrochloride ( and Radiostoleum	1	1	0	
	<u>23</u>	<u>16</u>	<u>17</u>	

Out of my 26 cases of General Infection of the  
blood stream, 23 were treated as above.

Of the remaining 3 cases, two (Cases 110 & 113)  
received no treatment with serum or chemo-therapy,  
both died. Case 110 being a septicaemia with mitral  
stenosis. /

stenosis. Case 113 suffered from congestion of the lung, peritonitis and had two pyaemic abscesses. (Staphylococcus aureus).

The third case (Case 102), which suffered from pelvic cellulitis, pelvic peritonitis and Septicaemia also received no serum treatment or chemo-therapy. A mixed vaccine was given after the fourth week when the temperature had settled. This case recovered.

Analysis of certain Cases of GENERAL INFECTION of the BLOOD STREAM receiving serum treatment in relation to the day of disease upon which the serum was administered.

Cases treated with Antistreptococcal Serum (Puerperal).

No. of Case	Amount of Serum given (c.c.)	Day of Disease upon which Serum was administered.	Blood Culture.	Result.
100	150	5	Positive	Died.
103	50	8	Positive	Died
104	50	5	Positive	Died
111	100	3	Positive	Died
114	150	3	Negative	Died
116	50	3	Negative	Recov: ered.
117	125	1	Positive	Died.
120	50	9	Positive	Died.

Average day upon which serum treatment was commenced - 4.5 day.

Cases treated with Scarlet Fever Antitoxin.

No. of Case	Amount of Serum given (c.c.'s)	Day of Disease upon which Serum was administered.	Blood Culture.	Result.
109	20	? 7	Negative	Died.
115	80	4	Positive	Died
119	40	5	Positive	Died

Average day upon which serum treatment was commenced - 5.3.

Cases treated with Antistreptococcal Serum (Puerperal) plus Sulfarsenol.

No. of Case	Amount of Serum given (c.c.'s)	Day of disease upon which Serum was administered.	Blood Culture	Result.
105	50	4	Negative	Died.
106	50	11	Negative	Recovered
125	50	1	Positive (B.Coli)	Recovered

Average day upon which serum treatment was commenced - 5.3

Cases treated with Scarlet Fever Antitoxin plus Sulfarsenol.

No. of Case	Amount of Serum given (c.c.'s)	Day of disease upon which Serum was administered	Blood Culture.	Result.
118	40	2	Positive	Died.

Case treated with Antistreptococcal Serum (Puerperal) Scarlet Fever Antitoxin and Sulfarsenol.

No. of Case	Amount of Serum given (c.c.'s)	Day of Disease upon which Serum was administered.	Blood Culture.	Result.
101	150 Anti: strep. 10 Scarlet	7	Positive	Died.

Two Cases (Cases 96 and 97) of General Peritonitis with negative blood cultures died. Case 96 received 50 c.c. Antistreptococcal serum (Puerperal) on the sixth day of disease. Case 97 received 100 c.c. Antistreptococcal Serum (Puerperal) plus a total of 60 c.c. mercurochrome intravenously.

In all cases of this Septicaemic group except four, which received serum, it was administered immediately on admission to hospital.

In ~~xxxx~~ the four cases serum was given outside hospital before admission. It will be noted that almost every case of septicaemia which received serum treatment was admitted to hospital at a comparatively late stage of the disease.

If serum treatment is to be instituted, it must be begun at the earliest possible moment and in an early stage of the disease.

#### RESULTS OF SERUM THERAPY IN CASES OTHER THAN GENERAL INFECTIONS OF THE BLOOD STREAM.

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Of my 95 cases of Local Uterine Infections (78) and Pelvic Inflammation (17), 59 received serum therapy. All recovered. 34 cases received no serum therapy. All recovered.

Of 4 cases of General Peritonitis, all received serum therapy, including one case (98) in which anti-pneumococcal serum was wrongly given. This case and



one other recovered. Two cases died.

Of 5 cases of the Miscellaneous group, 2 were treated with serum, 3 received no serum treatment. All 5 cases recovered.

Obviously cases receiving no serum recover just as well as cases which do receive serum therapy.

There were 21 deaths in the whole group of cases (130), giving a mortality of 16.1 per cent.

<sup>8</sup> Bernard has published the results in treating 35 cases of Puerperal Septicaemia by antistreptococcal sera. In all his cases the diagnosis was confirmed by blood culture, bacteriological examination of pus from metastatic abscesses or necropsy. Strep: tococci were found in the blood in 18 cases. His proportion of cures was 37.1%.

Bernard advocates the giving of 80 to 100 c.c. of serum in two injections during the first day, and on succeeding days from 60 to 80 c.c. To judge the efficacy of treatment two or three days are required. He concluded that the serum may act firstly, in about 20 per cent of cases, rapidly and perhaps specifically, the temperature falling and the general condition improving and secondly more slowly and indirectly, its efficacy being non-specific and equal or inferior to that of colloidal metallic preparations given intravenously.

Roulland<sup>67</sup> has stated that the effects of serotherapy /

therapy in the treatment of Puerperal Infection are inconstant. He advocates that serum be given early intravenously and that local applications of serum should also be made, either by introducing each day 50 c.c. into the uterine cavity or by leaving there for 8 to 10 hours a piece of gauze steeped in the serum.

Williams<sup>97</sup> had four cases of Puerperal Fever following abortion where haemolytic streptococci were present in the blood. They all recovered under treatment with serum, and the organisms had disappeared from the blood stream in 2-3 weeks.

Miller and Chalfant<sup>62</sup> treated 11 cases with arseno-benzol in 6.mg. doses. 7 of these were Strep: toccocal cases and 5 of these recovered. Two were due to a Gram-negative bacillus (unclassified) and these also recovered.

Schafer<sup>71</sup> had 7 cases of Streptococcal endometritis with blood infection, which all recovered when treated by subcutaneous injections of 50.c.c. of serum and .05 mg. of Methylene blue daily in saline.

<sup>70</sup>  
Sanderson and others in 1927 successfully treated a case of puerperal septicaemia and a case of septicaemia secondary to otitis media by injecting concentrated scarlatinal streptococcal antitoxin intramuscularly. These cases were treated first with ordinary /

ordinary polyvalent antistreptococcal serum, but as they did not respond to this and other remedies the Scarlet Fever Antitoxin was tried.

<sup>10</sup>  
Boente in 1927 reported that cases of erysipelas and other streptococcal infections could be cured by the serum from convalescent cases of Scarlet Fever, but not cases of infection with B.Coli or Staphylococcus aureus.

He showed in addition that antiscarlatinal serum from an immunised horse was beneficial in cases of puerperal infection, acute tonsillitis, and erysipelas, also that sera, prepared against strains of Streptococci, isolated from cases of puerperal fever or erysipelas, were beneficial in Scarlet Fever.

<sup>48</sup>  
Lash has given an account of 57 cases of Puerperal Fever which were treated with concentrated streptococcus antitoxin.

Of the cases treated there were 20 of uncomplicated acute endometritis and metritis, 20 of acute endometritis and parametritis, 10 of pelvic peritonitis and generalized peritonitis, 3 of parametritis and thrombophlebitis, and 4 of embolic pulmonary complications.

In his series of 20 endometritis cases there was a mortality of 5 per cent. Of the 20 women having parametritis with acute endometritis, 5 died, giving a /

a mortality of 25 per cent. Of the 10 cases of generalized or diffuse peritonitis, 9 died, giving a mortality of 90 per cent. One of the three patients with thrombophlebitis and two of the four with pulmonary complications secondary to that of the pelvis died.

The mortality of the whole group of 57 patients was 32 per cent. Lash also treated 13 Control cases with no antitoxic serum. He employed general measures, in some cases administered 1 per cent mercurochrome or 1 per cent gentian violet intravenously.

The mortality of his Control group of patients was 61 per cent. Lash is of the opinion that streptococcal antitoxin shows a definite value in the early cases of puerperal fever, that is, acute endometritis, less when parametritis occurs, and little or no value in diffuse peritonitis. He prefers the intravenous route of injection for rapidity of effect, but states that it carries a greater risk of reaction than the intramuscular route. One can hardly agree with Lash however, when in concluding his paper he states -

"Since this antitoxin is comparable in its efficacy in the treatment of puerperal fever to diphtheria, scarlet fever or tetanus antitoxin, a woman developing symptoms of puerperal fever should receive it within thirty-six to forty-eight hours after the onset."

This



This seems a very extravagant claim. Certainly in my experience one cannot call puerperal antistreptococcal serum a specific serum for puerperal infection, and it is not at all comparable in its efficacy in treatment of puerperal infection to diphtheria, tetanus or even Scarlet Fever antitoxin.

Most of my cases of Puerperal Septicaemia (this being the category of puerperal infection we are worried and concerned about) which received serum therapy did not receive it at the earliest possible moment, as they were not always sent in to hospital on the first sign of fever.

Two cases (Case 111 and Case 117), however, from a Maternity hospital, in spite of receiving puerperal antistreptococcal serum both intravenously and intramuscularly at the very onset of infection, did not respond to the serum treatment in the very slightest. Both died.

In their report presented to the British Congress of Obstetrics and Gynaecology in 1925, the London Committee in regard to special treatment mention 33 cases conforming to the rules, treated by antistreptococcal serum and injections of quinine. The mortality was 18 per cent. Eleven patients were treated by intramuscular injections of quinine alone and all recovered; fourteen patients were treated with /

with antidiphtheritic serum and only one died; three patients treated by neosalvarsan and collosol iodine all died.

The Northern Committee in their report to the same Congress have reported 101 cases treated by antistreptococcal serum, and give an analysis of the quantities and details of its administration. One hundred and four cases treated by antistreptococcal and other sera, on which operations were also performed, showed a mortality of 72 per cent, and 47 cases treated by serum, on which no operation was performed, a mortality of 76.5 per cent.

<sup>14</sup>  
Burt-White in a recent paper has given the results of treatment of twenty-seven cases of puerperal septicaemia by concentrated Scarlet fever antitoxic serum. Serum was administered to his first 13 cases intramuscularly and then in every subsequent case intravenously. The maximum quantity administered by the intramuscular route on any one occasion did not exceed 30.c.c. The maximum intravenous dose was 100 c.c. and never less than 20 c.c. Anything up to a total volume of 250 c.c. of concentrated Scarlet fever antitoxin was administered intravenously. Every case treated by serum in the series was proven due to *Streptococcus pyogenes* by cultures from the cervix uteri and the blood.

of /

Of the 27 cases treated, 8 died - a mortality of 29.6 per cent, which I think is very good indeed.

Burt-White, however, states that since completing the paper he has treated three other cases of puerperal septicaemia with concentrated Scarlet fever antitoxin and all proved fatal.

If one includes these three cases then the mortality of Burt-White's cases is raised to 37 per cent.

Even 37 per cent as a mortality for Puerperal septicaemia is a comparatively low figure when compared with my own and that of other observers.

66

Rosher has published the results of treatment with concentrated Scarlet fever antitoxin of four cases of Septicaemia due to *Streptococcus haemolyticus*. All four cases recovered.

Two of the cases were cases of puerperal septicaemia. In each case the *Streptococcus haemolyticus* was isolated from the blood. In the one case 40 c.c. of serum was given in all (10 c.c. intravenously and 30 c.c. intramuscularly).

In the other case eleven doses of 10 c.c. of serum were given - in all a total of 110 c.c.

Rosher's results suggest it is not essential to employ large doses of the serum, nor is it necessary to give it intravenously on every occasion. But it is absurd to place any reliance on the results of treating only two cases of puerperal septicaemia.

Burt-White apparently has given up the method of administering Scarlet fever antitoxin by the intramuscular route, and never gives less than 20 c.c. intravenously and in some cases as much as 100 c.c. at a time.

I agree that one must be guided by the clinical condition of the patient, but to me 100 c.c. of concentrated Scarlet fever antitoxin appears to be a really massive dose, and probably more than is necessary to produce the maximum effect. It is well known that 20 c.c., or even 10 c.c. of Scarlet fever antitoxin, given either intramuscularly or intravenously, produces most dramatic and successful results in cases of toxic Scarlet fever.

Burt-White states that persistence in the treatment is essential, but to give a case of puerperal septicaemia 250 c.c. of concentrated Scarlet fever antitoxin appears to me to be much more than should be necessary if the serum is efficacious.

A good and efficacious serum should show signs of improvement clinically in the patient within 12 to 24 hours of treatment. Such a serum should within that period of time produce a fall in temperature and a slower pulse-rate.

The efficacy of such an antitoxin should be comparable to that of diphtheria antitoxin.

Neither Puerperal Septicaemia Antistreptococcus Serum /



Serum nor Scarlet Fever streptococcal antitoxin produced any such results in my cases of General Infections of the Blood-stream, and I must state that in my experience serum therapy is of no avail if there is a massive blood infection.

## CHEMO-THERAPY.

### Sulfarsenol

Five sharp cases of Local Uterine infection were treated with sulfarsenol alone. All recovered. These cases were 23, 24, 25, 27 and 28.

One case (94) of Pelvic inflammation was treated with sulfarsenol alone. This case recovered.

Two cases (122 and 124) of Septicaemia were treated with sulfarsenol alone. Both died.

Sulfarsenol was also given to several other cases in addition to treatment with serum, etc.

20

Colebrook in a study of some organic arsenical compounds with a view to their use in certain streptococcal infections states that infections due to the group of haemolytic streptococci are more likely to be influenced by certain arsenical compounds (including sulfarsenol) than those due to the 'viridans' type, staphylococci, or enterococci. Indeed he states the achievement of a direct bactericidal coup in these latter infections would seem to be quite improbable.

Colebrook is of the opinion that the least toxic arsenical compounds are sulfarsenol, kharsulphan and metarsenobillon, approximately equal. As to the administration of these compounds he favours the intramuscular /

intramuscular route as it gives a more prolonged absorption. If Novarsenobillon is given intravenously the effects pass off in 15 to 24 hours. It is too toxic a compound to repeat the dose at short intervals.

Colebrook also states that early treatment with the above mentioned arsenical compounds in Puerperal Fever should diminish the chances of troublesome and dangerous complications such as septic thrombosis, pelvic cellulitis and septicaemia. But even in these cases there is ground for hope that a course of intermittent temperature carried on for two to three weeks will afford a measure of protection against the development of a localised into a generalised and fatal infection.

<sup>65</sup>  
Rivière recommends the use of arsenic salts in the treatment of Puerperal Fever. For Treatment he gives 0.12 to 0.18 cgm. sulfarsenol in severe cases. This dose he repeats from one to nine times according to the resistance and the gravity of the infection.

<sup>86</sup>  
Vergely has treated a series of cases of Puerperal Fever with sulfarsenol. He gave 12 cgm. to any case immediately after any intervention in labour, and the result was invariably satisfactory. If pyrexia ensued it was only slight. In a few cases in which the temperature rose in spite of an initial dose /

dose, a second injection of 12 or 18 cgm. was given each time there was a notable rise, and could, if necessary, be repeated daily. Vergely states that sulfarsenol is the least toxic of the arseno-benzenes and on injection is not painful when properly diluted. A possible disadvantage is a toxic erythema. A few of his cases showed a morbilliform eruption with a sharp rise of temperature, both of which disappeared in 48 hours. Contraindications are grave hepatic troubles and uraemia.

All my cases which received sulfarsenol by the intramuscular route invariably complained of severe pain at the site of injection, in spite of the fact that the drug was well diluted. The pain appeared to be worst during the injection and persisted usually for ten to fifteen minutes after withdrawal of the needle. None of my cases so treated showed any toxic erythemas or morbilliform rashes.

In my hands results with sulfarsenol treatment have been disappointing. Severe blood infections due to haemolytic streptococci do not appear to be influenced in the slightest by the intramuscular administration of sulfarsenol. One of my cases (31) was also treated with arsenic in the form of sodium cacodylate. It should be given intramuscularly usually in doses of  $\frac{3}{4}$  to 1 grain daily for the first week /



week or two of an acute case.

42

Sir Thomas Horder recommends the giving of 1 grain of sodium cacodylate in a saturated solution of nucleinic acid, 1 c.c. for convenience and this should be given intramuscularly twice in 24 hours, for the first two or three weeks of an acute case.

### Mercurochrome.

Three cases received intravenous injections of mercurochrome. Two of these cases (37 and 97) in addition received antistreptococcal serum (puerperal). Case 37 recovered. Case 97, which suffered from general peritonitis, died.

The third case (112) gave a positive blood culture. Treatment was by Antistreptococcal serum (puerperal) 90 c.c. in all, sulfarsenol 12 cgms. daily for six days (total of 72 cgms.) and 20 c.c. of mercurochrome intravenously daily for four days. This case died.

Other methods of treatment adopted usually in combination with one or more others included, colloidal iodine, colloidal argenticum, and quinine intramuscularly.

With all of them, however, I must report disappointing results.

White<sup>95</sup> states that general treatment of Puerperal and /

and Abortion Sepsis should aim at increasing the natural powers of resistance by vaccine or serum administration and blood transfusion. He advocates the intravenous injection of mercurochrome - 220, in order to kill any organisms in the blood stream, thus converting a septicaemia into a condition of local sepsis with a more favourable outlook. He claims that this has proved to be of definite value in treatment.

<sup>85</sup>  
Vaucher and Uhrig assert that some chemical products have given very good results in the treatment of septicaemias and they describe four in particular, - trypaflavine, mercurochrome, septicemine, and optochine, - and the conditions in which they have proved of benefit. Mercurochrome, they state, possesses great penetrating and bactericidal powers, and causes only slight irritation of the tissues.

Other methods of Treatment recommended which I did not try on my series of cases include:-

Arsenobenzol intravenously 0.10 gram. on alternate days.

Perchloride or Salicylate of Mercury given in 5 c.c. doses of a 0.05 per cent solution and repeated daily if necessary.

Sodium Bicarbonate solution (0.9), 20 to 40 ounces /

ounces intravenously repeated once or twice or given<sup>27</sup> by repeated rectal injections. Fitzgibbon and Bigger state that this treatment appears to do good in some cases especially when the patient begins to show debility.

Flavine, - 10 to 15 c.c. of 1 in 1000 solution in saline intravenously.

Acridine - also used in 1 in 1000 intravenously.

Eusol - 50 to 100 c.c. intravenously. This can be made as recommended by Professor Lorrain Smith and Co-workers, by diluting 135 c.c. of chlorinated lime solution to 500 c.c., adding boric acid solution and finally sodium chloride 8.5 gm. in water .250 c.c.

Lorrain Smith, Ritchie and Rettie think that the hypochlorous acid probably destroys the toxin circulating in the blood. They state that there is no evidence that eusol acts as a bactericide.

Dr Benson informs me that all the above drugs have been tried on cases of Puerperal Septicaemia in the Edinburgh City Hospital within the past few years and not one of them is better than another. The results were disappointing.

Stacey Wilson<sup>98</sup> states that carbolic saturation is worth trying in the treatment of certain types of streptococcal blood infection. He recommends sodium sulphocarbolate /

sulphocarbolate 20 to 25 grains every 2 hours for an adult. With this treatment it is always well to combine raw meat feeding, - 4 to 6 ounces being given daily. Wilson has found this treatment efficacious in streptococcal infections after Scarlet Fever, and those accompanying rheumatic fever as well as other types of infection.

<sup>46</sup>Küstner states that most of the patients admitted to the Leipzig Universitäts-Frauenklinik suffering from severe puerperal fever have previously received injections of trypaflavine or some silver preparation. He is doubtful as to the utility of these treatments in such cases, and emphasizes the importance of improving the patient's general condition. He attaches considerable value to three adjuvant measures - namely, alcohol therapy; slow intravenous infusion with dextrose; the use of an antiserum prepared from streptococci and their exotoxins.

The alcohol is given in massive doses, chiefly as brandy.

Kirstein four years ago advocated the intravenous injection of a 10 per cent solution of dextrose. Küstner, however, prefers to use a 2 per cent solution of dextrose in Ringer's solution, -  $2\frac{1}{2}$  litres being introduced by continuous infusion during about 24 hours into the median cephalic or basilic vein.

He /



He sometimes adds cardio-vascular stimulants to these infusions.

Küstner states that the value of this treatment lies in it producing diuresis with toxin elimination, by furnishing an easily combustible nutrient and by stimulating the myocardium and haemopoietic system.

This therapy combined with serum and other treatments apparently has cured several seemingly hopeless cases of puerperal septicaemia. The treatment, however, must be started early in the disease and within a short time of the appearance of high fever or a rigor.

#### BLOOD TRANSFUSION.

This is sometimes effective in apparently hopeless cases. One of my cases (Case 105) received blood transfusion which was carried out by the indirect citrate method. This case, however, died.

<sup>64</sup>  
Powell and Davey report a case of post-partum anaemia successfully treated by transfusion which they state is invaluable in puerperal cases suffering from an anaemia of the pernicious type. They emphasize the importance of the examination of the blood in puerperal anaemia.

#### IMMUNO-TRANSFUSION.

None of my cases were treated by this method.

The transfusion of immunized blood to help the patient's own defensive mechanism has been advocated

by Colebrook and Storer.<sup>22</sup>

Page Sutherland<sup>83</sup> stated that his results of treatment of Puerperal Infection by immuno-transfusion were disappointing.

## RADIOSTOLEUM

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Radiostoleum is a mixture of a concentrate of Vitamin A with a solution of Radiostol (irradiated ergosterol - manufactured Vitamin D)

31

Green and Mellanby have made an experimental study on animals of the function of Vitamin A. These observers, in a summing up of conclusions arrived at, state that apart from the promotion of healthy growth the chief and most important function of Vitamin A is - "To raise the resistance - either local or general or both - to bacterial infection. Animals deprived only of this vitamin died ultimately with multiple foci of infection, whereas control animals receiving Vitamin A remained in good health, free from infection. Animals which had developed infective lesions, if given in time abundant Vitamin A, usually recovered completely."

61

Mellanby and Green in another paper have given an account of five cases of puerperal septicaemia from whose blood haemolytic streptococci were grown. They treated the five cases with preparations rich in Vitamin A. All made complete recoveries, thus indicating, they state, that Vitamin A when given therapeutically can raise the resistance of the human body against /

against septic and infective micro-organisms. They are of the opinion that the effect of Vitamin A is rather to increase gradually the general resistance than to act suddenly, as might be expected in the case of a substance having a specific bactericidal or antitoxic effect.

I treated only three of my later cases with radiostoleum. They were:-

Case 83 (Pelvic Cellulitis) Blood Culture negative.

One drachm liquid radiostoleum given twice daily. Case recovered.

Case 121 (Septicaemia) Blood Culture - Non haemolytic streptococci. One drachm liquid radiostoleum given twice daily. Case sent to Royal Infirmary for operation for empyema. Case ultimately recovered.

Case 123 (Septicaemia) Blood Culture:- haemolytic streptococci. Two drachms liquid radiostoleum given twice daily. Case recovered.

One can hardly venture an honest opinion as to the true value of radiostoleum in puerperal septicaemia on the results of only three cases so treated. In addition the treatment of these three cases was not confined to the administration of the Vitamin A preparation. Case 83 received sulfarsenol. Case 121 received 50 c.c. of antistreptococcal serum (puerperal).  
Case /



Case 123 received 40 c.c. of Scarlet Fever Antitoxin, Collosol Argentum intravenously, and courses of sulfarsenol and quinine intramuscularly. At the same time these other methods of treatment (serum, sulfarsenol, etc.) have been tried in other cases with most disappointing results.

B. P. Watson<sup>92</sup> states he has had recoveries after treatment with various kinds of intravenous medications, such as magnesium sulphate, eusol, and salvarsan, also serums. These recoveries were at first attributed to the drug used until it was found that with no intravenous medication and with no serum, just as many patients got well.

I entirely agree with this and have found it very difficult to assess the true value of serums and chemotherapy. In my experience just as many cases recover without treatment by serums or chemical substances. In septicaemia serum and chemotherapy appear valueless. No antitoxin or chemical substance which I have used in treatment appears to affect in the slightest streptococci circulating in the blood stream.

#### PELVIC CELLULITIS.

Cases of pelvic cellulitis were treated in the usual manner:-

Absolute rest in bed.

Hot gentle vaginal douches.

Application of glycerine ichthyl (10%) tampons.

Radiant heat to the pelvis.

Warm boric bowel washes.

If pain was at all severe or any pelvic peritonitis present - hot gamgee fomentations or antiphlogistine poultices were applied to the lower abdomen. If a pus tube formed, the case was kept in hospital until the temperature had completely settled for some time and was then transferred to the care of the gynaecologist for further attention and treatment.

In these cases, until localization has developed, operative measures appear to be difficult to undertake and inadvisable to perform.

#### THROMBOPHLEBITIS.

This condition I associate with a general inflammation of the cellular tissue in the Broad ligament. It is evident by wide excursions of temperature, repeated chills or rigors. On palpation one may be able to make out nothing or on the other hand some thickening on one or both sides of the uterus may be felt.

This condition was treated by rest and the various general measures I have mentioned.

Some cases of Thrombophlebitis are treated by ligation of the ovarian or common iliac vein.

GENERAL /

GENERAL PERITONITIS.

Whenever pus forms it should be evacuated. If peritoneal fluid forms it should be drained by performing a laparotomy.

In my series of cases there were four of General Peritonitis (Cases 96, 97, 98, 99.) Two cases died, two recovered.

Two cases were operated upon. In each case the abdomen was opened by a mid-line incision and the peritoneal cavity drained. One case recovered, the other died.

I am advised that operative treatment for this type of case is not favoured.

Hingston and Mudaliar<sup>39</sup> state that opening and draining of the abdominal cavity in cases of puerperal peritonitis has not given satisfactory results. In cases following abortion they state operation is more successful.

Case 96 which I think was a criminal abortion had a laparotomy performed. The patient, however, died.

Joe,<sup>43</sup> however, is of the opinion that it is beneficial to operate and drain the peritoneal cavity in cases with general peritonitis.

### Phlegmasia Alba Dolens.

This condition was treated in the usual fashion. Absolute rest for the affected limb, which was slightly raised and kept immobile between sandbags. Pain was relieved by lead and opium dressings or 10 per cent glycerine and ichthyol. No voluntary movement of the limb was permitted until the swelling had disappeared.

six

Affected cases were kept in bed at least six weeks from the commencement of the White Leg.

### Urinary Infections.

There was a urinary infection present in 62 out of the 130 cases. In most of the cases there were no symptoms pointing to the presence of a urinary infection. Cases showing evidence of infection of the urinary tract were as follows:-

B.Coli.Bacilluria was present in 34 cases (26.2%)

Coccal Infection of the Urinary

Tract was present in ..... 12 cases.

Cystitis (mild) was present in ..12 cases.

Mixed coccal and B.Coli

Infection was present in ..... 4 cases.

TOTAL                      62 or 47.7 per cent

Treatment was on the usual lines. B.Coli infections were treated by alkalinising the urine with  
a /



a mixture of Potassium Citrate (20 grains) and Potassium or Sodium Bicarbonate (20 grains). This was given every two hours until the urine became alkaline, and then four-hourly thereafter. Water was given freely - 5 to 8 pints in 24 hours. If at the end of a week or ten days there was no improvement a change of medicine was made to Acid sodium phosphate (3 ss) and hexamine (10 grains), or metramine capsules (methylene blue preparation).

Coccal and mixed coccal and bacillary infections were treated with metramine capsules commencing with two thrice daily and increasing to four thrice daily. Caprokol was also used with success. Other cases were treated with Acid sodium phosphate and hexamine.

Autogenous Vaccines were tried in one or two of the cases with persistent infections, but results on the whole were disappointing.

#### Nephritis.

A chronic or pyelo-nephritis was present in 11 cases out of the 130 (8.5 per cent).

Cases were treated on the usual lines. Carbohydrate, non-protein diet until the urinary condition was satisfactory.

### Pneumonia, Pleurisy, Empyema, and Bronchitis.

Pneumonia cases received the usual treatment. Antiphlogistine locally, expectorant mixture of potassium iodide, ammonium carbonate or squills, Tinct Digitalis, and oxygen if occasion demanded it.

There were 7 cases of pneumonia out of 130.  
(5.4 per cent.)

Three of the cases developed empyema.

There was one case of dry pleurisy and one case of Basal lung congestion.

There were three cases of Bronchitis.

### Mammary Abscess.

I had one case (127) suffering from Mammary Abscess.

The abscess was opened under general anaesthesia by deep radiating incisions from the nipple. The loculi were broken down by the finger and long strips of rubber dam inserted. The wounds were then fomented every two hours with boric soaks.

### Puerperal Mania and mentally affected cases.

I had one case (129) of Puerperal Mania. This case was ultimately transferred to a mental home.

Two other cases (68 and 119) also showed mental symptoms, hallucinations and confusional insanity. Case 119 died in hospital.

Beyond the usual treatment and the judicious use of sedatives, Chloral, bromides, morphia and hyoscine, these cases received no special treatment.

<sup>6</sup>  
Barkin has reported the very successful employment of protein therapy in a case of puerperal mania. He treated his case by giving two courses of T.A.B. vaccine intravenously.

#### Puerperal Scarlet Fever.

In my series of cases I had one sharp case of puerperal Scarlet Fever (Case 130). This case, however, did very well and made an excellent recovery.

Baize and Mayer<sup>4</sup> record six illustrative cases of puerperal Scarlet Fever in women, whose ages ranged from 17 to 39 all but one of whom were primiparae. In the majority of cases the disease set in on the third to fifth day of delivery.

The symptoms apparently differ but slightly from those of ordinary Scarlet Fever. The gravity varies in different epidemics. None of Baize and Mayer's cases were fatal.

Baize and Mayer state that generally the prognosis is likely to be grave when the incubation period (the interval between delivery and the onset of symptoms) is short. They are of the opinion that two groups of puerperal Scarlet Fever may be distinguished. The first consists of cases of ordinary Scarlet /

Scarlet Fever which has developed as a mere coincidence in the puerperium, while in the second group, which is much larger, the attack has been the result of the endometritis which is usually slight. These two groups of Scarlet Fever may be distinguished from puerperal scarlatiniform erythema by the Schultz-Charlton reaction.

#### Gangrene.

Seven of my septicaemic cases developed gangrene of the foot or feet. This was a very fatal complication as six of the seven cases died.

I think the condition is likely due to an Arteritis caused by the *Streptococcus pyogenes*. It may possibly, however, be embolic in nature.

The most important clinical features are the rapid development, profound prostration and agonising pain in the toes and feet. The skin presents a bluish dusky hue, without blisters or bullae. The condition may appear apparently any time in Puerperal Septicaemia up to the beginning of the third week of the onset of the disease. It is distinguished from erysipelas by the fact that the margin is not raised and not so clearly defined. In addition the affected part is cold on palpation, and no pulsation of the dorsalis pedis artery can be obtained. These points in /



in addition to the absence of lymphangitis and lymphadenitis distinguish the condition from ordinary streptococcal cellulitis.

No. of Case.	Part affected.	Day of onset.	Blood Culture	Uterine Culture.	Result.
106	Large toe (Left foot)	19	Negative	Not taken.	Recovered.
114	Both feet	15	Negative	Haemolytic Streptococci	Died.
117	Both feet	10	Haemolytic Streptococci	Haemolytic Streptococci (S. Pyogenes.)	Died.
118	Both feet	4	Haemolytic Streptococci	Haemolytic Streptococci (S. Pyogenes.)	Died.
120	Left foot	14	Haemolytic Streptococci	Haemolytic Streptococci (S. Pyogenes)	Died.
122	Right foot.	9	Negative	Haemolytic Streptococci (S. Pyogenes)	Died.
124	Both feet	8	Haemolytic Streptococci (Streptococcus pyogenes)	Haemolytic Streptococci (S. pyogenes)	Died.

Very little can be done in the way of treatment for this fatal complication. The affected part should be wrapped up in cotton wool, kept warm, and slightly raised to aid the circulation and prevent stasis. Patients suffering from this form of gangrene suffer such agonising pain that morphia requires to be given in full doses.

It /

It will be noted that out of my series of seven cases only one recovered (Case 106). In this case the gangrene was strictly localised to the large toe of the left foot. The remainder of the foot remained perfectly healthy.

#### Puerperal Hemiplegia.

In my series of cases I had no case of puerperal hemiplegia. Eastman<sup>24</sup> records seven cases of puerperal hemiplegia. This condition, he states, is usually due to cerebral thrombosis and appears most often in the second or third week of the puerperium, probably always secondary to a pelvic infection.

#### Endocarditis.

In my series of cases I had no case of endocarditis. Macdonald and Macnab<sup>55</sup> have recorded an interesting case of Ulcerative Endocarditis of puerperal origin.

#### CONVALESCENCE.

Attention must be given to questions other than the single one of recovery from the immediate effects of the illness. Measures are required to place the patient on a higher plane of resistance to bacterial infection.

The /

The essential condition underlying the state of the puerperal patient in convalescence is a secondary anaemia.

Practically every case showed a definite reduction of red blood corpuscles and in the haemoglobin percentage on admission to hospital. The secondary anaemia was also found to be present in convalescence. The patient's subjective feeling of weakness is due to the reduction in the haemoglobin percentage which probably also causes a faulty metabolism.

A secondary anaemia leads to a lessened resistance to infection. A rapid regeneration of red blood cells and haemoglobin gives a shorter convalescence and a rapid return to normal health.

It is well known that the administration of iron is beneficial, I might say almost specific, in that group of blood diseases known as secondary anaemia and also in chlorosis.

Blaud's pills, usually two thrice daily, were given to all my cases as soon as convalescence was reached.

Strychnine, which is useful because of its action in increasing peristalsis and also for its effect on general tone, was also given to several of the cases during convalescence.

Another useful preparation which cases are receiving /

receiving at present is Ostomalt (ostelin with malt Extract and orange juice - a preparation of Vitamins A:B:C:D.).

All cases which tended to have a protracted convalescence received in addition ultra-violet ray treatment twice weekly. This was given in the usual way by means of a portable quartz mercury vapour lamp. Ultra-violet radiation has a direct bactericidal effect on the surface of the skin. In addition certain definite indirect effects are produced, e.g.

1. Increase in the bactericidal power of the blood.
2. Increased retention of calcium phosphorus and iron in the body.
3. Stimulation of cell metabolism.
4. Analgesic effect on the skin.
5. A general "tonic" effect.

Cases which suffered from marked secondary Anaemia also received liver treatment. Fresh liver was given to these cases, half-raw or as raw as they could possibly take it.

Four ounces of minced liver ("potted liver") daily was advised. Some patients took it very well when served up in sandwich-form.



### CONCLUSIONS.

1. Trauma in conjunction with the lack of general resistance on the part of the patient is the most important cause of the incidence of Puerperal Infection.
2. Haemolytic streptococci are associated with the severe and fatal forms of Puerperal Infection in which there is a complete absence of the less virulent organisms which are so closely related to the much milder forms of the disease.
3. Acute Puerperal Infection or Puerperal Septicaemia is almost always due to streptococci, most commonly haemolytic.
4. The milder forms of Puerperal Infection are due to a localized uterine infection caused by a variety of organisms including non-haemolytic streptococci, B.Coli, diphtheroids, gram positive bacilli and gram positive cocci.
5. The blood picture in Puerperal Infection, if not explained by haemorrhage during labour, indicates destruction of red blood corpuscles and constantly presents the features characteristic of secondary anaemia.
6. Uterine Cultures are useful in forming a diagnosis and in giving a prognosis.

7. Blood Cultures are also of value in diagnosis and prognosis.
8. A leucocyte and differential white blood count is of considerable value in prognosis.
9. The prognosis is very serious when the Streptococcus pyogenes is obtained in pure culture from the uterus, as it indicates a virulent and severe infection.
10. The prognosis is fair but must be guarded when non-haemolytic streptococci are obtained from the uterus.
11. The prognosis is favourable when a mixed growth of organisms is obtained from the uterus, as their presence is associated with a mild and localized type of disease.
12. In Puerperal Septicaemia a well marked response by the polymorphonuclear leucocytes as evidenced by a count of anything over 24,000, is indicative of strong resisting and fighting powers and the outlook of the case is accordingly more hopeful.
13. An effective therapeutic agent has yet to be discovered which will cure Puerperal Septicaemia.
14. Serum Therapy in severe cases of Puerperal Septicaemia is worth trying but results are disappointing.

15. There is no doubt as to the efficacy of intra-uterine glycerine in the treatment of localized uterine infections, especially where the infecting organisms are present in mixed culture.
16. Efficient nursing in good hygienic surroundings with plenty of fresh air, sunlight, and nourishing food is a fundamental necessity in the treatment of Puerperal Infection.

In conclusion I wish to express my grateful thanks to those who have aided me in this study:-

To the Medical Staff of the Edinburgh Royal Infirmary Pathological Department for so kindly performing the Wassermann tests, to Dr Gibson of the University Bacteriology Department for valuable advice on bacteriological questions, and above all to Dr W. T. Benson, Medical Superintendent, Edinburgh City Fever Hospital, for his kind permission to carry out this study and for his ever ready help and encouragement.

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